DOCUMENT RESUME

ED 121 888 UD 015 940

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TITLE	Identification of the Disadvantaged Areas on the Island of Montreal with a View to Intervention Programmes being Initiated by the School Community.
INSTITUTION	Island of Montreal School Council (Quebec).
PUB DATE	27 Dec 74
NOTE	79p.; Not available in hard copy due to marginal legibility of original document
EDRS PRICE	MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS	Area Studies; Census Figures; *Depressed Areas (Geographic); *Disadvantaged Environment; Economically Disadvantaged; Economic Disadvantagement; *Environmental Criteria; Environmental Influences; Environmental Research; Evaluation Criteria; Intervention; *Poverty Research; Program Design; Program Development; Program Improvement; Program Planning; School Districts; *Social Environment
IDENTIFIERS	*Quebec (Montreal)

ABSTRACT

Federal census district data for 1974 are used to produce a global index showing the relative degree to which each of the census districts of the island of Montreal is disadvantaged. The internal dynamics and characteristics peculiar to the different local communities within are not specified and necessitate additional data sources such as health, social affairs, leisure, and others for their study. The research is undertaken with the aim of insuring a more rational and equitable distribution of educational funds that will take into account the social inequalities which exist between different social groups. Socioeconomic and cultural indicators are chosen that reveal the disparities between social and cultural communities and which an institution like the school should be aware of before alloting their budgets or choosing particular intervention strategies. The question of the poverty problem which enabled the identification of certain variables which relate to the problem of social inequalities in society and for which information is available is briefly but comprehensively pin pointed. Sixty-five census districts are presented in tabular form, containing the district members, the corresponding global index value, the geographical boundaries of each district, and the names of the cities in which the disadvantaged areas are located. (Author/AM)

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ED121888

IDENTIFICATION OF THE DISADVANTAGED AREAS ON THE ISLAND OF MONTREAL WITH A VIEW TO INTERVENTION PROGRAMMES BEING INITIATED BY THE SCHOOL COMMUNITY

Study prepared for the School Council of the
Island of Montreal
by
Raymond Depatie, Yvon Lefebvre and Claude Parent.

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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December 1974

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December 27, 1974.

Dr. Gérard Barbeau,
Director General,
School Council of the Island of Montreal.

Dear Sir,

In accordance with the mandate given to us by the members of the School Council of the Island of Montreal following a decision taken at their meeting on May 13th, 1974, we present our report on the study made to identify the disadvantaged areas on the Island of Montreal with a view to intervention programmes being initiated by the school community.

We will, of course, be available to the Council for any further explanations or information they might require.

Yours truly,

Raymond Depatie

Yvon Lefebvre

Claude Parent

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SOURCE OF INFORMATION

All the data used in this report were taken from the 1971 Canadian Census, metropolitan area level. They were obtained from Data Distribution, Statistics Canada, Ottawa.

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INTRODUCTION

On October 26th, 1973, the School Council of the Island of Montreal passed a resolution proposed by Madame Thérèse Lavoie-Roux. One of its recommendations read as follows:

> "That the Council request the Director General to take the necessary steps to have a study undertaken immediately, based on socio-economic data from the 1971 Federal Census, to draw up a poverty map for the purpose of identifying the schools within each school board of the Island of Montreal, which are located in disadvantaged environments. This study would provide the Council with the initial administrative material essential to any rational plan of action."

It is in this context, with all the restrictions and contingencies implied, that we have undertaken this work. We will explain these restrictions and contingencies before we present our results so as to avoid any misunderstandings or misinterpretations that might arise if these limiting factors are not continually borne in mind when the results of this analysis are being used.

Limiting factors to be considered

First, it must be remembered that this "poverty map" is derived from a group of indicators made up from data available at the Federal census district level in September 1974. It cannot be considered, in itself, to be a definition or description of poverty, but rather, a compilation (Global Index) of data available at this time, which shows the relative state of disadvantage suffered by certain groups and individuals compared to others on the Island of Montreal in 1971.*

Secondly, it should be understood that this research has been undertaken with the aim of ensuring a more rational and equitable distribution of educational funds which will take into account the social inequalities which exist between different social groups on the Island of Montreal. Socio-economic and cultural indicators have been chosen to reveal the disparities between social and cultural communities, which an institution like the school should be aware of before allotting their budgets or choosing particular intervention strategies. In regard to this last point, concentrated areas of poverty have been defined which will allow intervention problems to be looked into by local communities, so that the poverty problem will not be reduced to a simple expression and isolated function of the family or individual.

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* It should be noted in this regard that while the data for all the other indicators are valid for 1971, the income figures are those of 1970.

These concentrated areas are, it should be repeated, linked to available census data which made it possible to ascertain the global state of economic and social deterioration without, however, specifying the internal dynamism and characteristics peculiar to the different local communities within them. To gain such knowledge about these environments, it will eventually be necessary to obtain data from other services such as health, social affairs, leisure and recreation and police and make a cross-check of this data for the same federal census districts and/or to undertake, with the help of representative samples from the different areas of concentration, new forms of research, both less conventional and much closer to the actual experience and direct participation of the members of these communities. Such dynamic research should closely link the needs and problems of a local community to the different solutions provided by existing institutions, beginning in this case with the school.

To question the function of an institution like the school in poor environments is, inevitably to ask certain questions about the whole poverty problem in view of the alarming inequalities which were verified in the results of this study. We intend, then, to pinpoint, briefly but comprehensively, the question of the poverty problem which has enabled us to identify certain variables which relate to the problem of social inequalities in our society and for which information was available.

I - THE QUESTION OF THE POVERTY PROBLEM AND THE EDUCATIONAL INSTITUTION

Article 591 of The Public Education Act states that "it is the duty of the Council to adopt by by-law, measures calculated to ensure upgrading of instruction in disadvantaged areas."

To speak of "upgrading" is to acknowledge a certain inequality between the different social groups as to their present possibilities for social and individual development through education; education being a priority factor in a modern society to enable every citizen to participate in all its institutions and to profit from services available by right of full citizenship. The meaning of "upgrading" and disadvantage" in this context must be defined.

These two ideas can take on a prejudicial and derogatory connotation when seen in contrast to the social and cultural traditions of the socially and politically advantaged classes who would indiscriminately impose their way of life on other social groups, or they can take on a democratic and positive connotation when seen in relation to a desire to give socially and culturally disadvantaged groups the social, cultural and political means to define themselves and to affirm, with the help of institutions, their own social and cultural identity as full citizens in society.

The socio-cultural aspect seemed to us to be as fundamental as the socio-economic aspect to the development of all individuals as full citizens. In traditional or pre-industrial societies, poverty is defined primarily in terms of want or privation from a socio-economic standpoint. The economy of subsistance accedes to an economy of accelerating growth and development where the problem of poverty is no longer exlusively a problem of the lack of material resources needed to ensure a decent standard of living. It becomes a question of the privation of cultural resources such as education, spare-time activities, information media, arts, social clubs and associations and community cultural centres which are indispensable, both to the individual and the group, to permit them to develop wholesomely and to have some control over the social, economic, political and cultural institutions of society at large, and not simply to subsist in a society which outstrips them and keeps them in a chronic state of dependence.

1. Life-styles, dominant culture and social groups

Social groups and communities do not all have the same resources at their disposal to live fully and to define themselves socio-culturally in the global society. There exist, then, many different life-styles in society, as a result of existing production ratios, which engender different manners and ways in which people eat, express themselves, dress, interpret and use space, envisage and spend time, make use of cultural facilities available in the community, interact with their surroundings and environment, relate to relatives and friends, treat members of the opposite sex, divide authority and work between men and women, educate their children, receive information from outside (papers, radio, TV, movies, shows, exhibitions.....), make use of public services and so on.

Within these different life-styles there is not necessarily equal opportunity for the development of potential through existing institutions.

Global culture depends, above all, on the social organization (production ratio) of a society. Some social groups attach much more cultural importance to manufactured products and these products themselves serve to further alienate indigent groups, but this does not in the least prevent them from being implicity as alienating and inhuman for members of the ruling class, given certain socio-cultural conditions such as a completely consumer-oriented society. Disadvantaged groups, however, experience many more contradictions in a more ambivalent way, in the global culture offered to them by existing institutions and the people who represent these institutions.

Individuals cannot identify themselves with products manufactured by society unless these products enable them to find a personal, social and cultural identity through their institutions.

The research of R. Kaes* on the working man's view of culture is very revealing in regard to the worker's search for cultural identity. The worker blames the dominant culture for leaving him behind, in terms of deprivation and differences which place him in an ambiguous and contradictory social and cultural situation, subjected as he is to this dominant culture. This is expressed, on the one hand, by a deep-seated desire to escape from this culture by keeping his specific character as a worker through a revaluation or renewal of the meaning of manual work, and, on the other hand, by an attempt to overcome his cultural difference, which is seen as a deficiency compared to the dominant intellectual culture, by basing his future on the dominant ideology which offers him alien values which he hopes to acquire for his children through the imaginary place of his hopes, which is the school.

The working man's feelings about his culture, then, can be ones of dispossession, of exclusion by default in the face of the standards imposed by the dominant culture. In his daily performance the worker is not constrained by the dominant culture is an explicit way but he comes to see himself in terms of this culture instead of identifying himself with his everyday life as a manual worker. Repressed by this resented cultural isolation, the search for freedom and identity often leads to a dependence on an imposed way of life which, in turn, leads to a social dependence that is one of the consequences of industrialization.

2. Social organization, official culture and the sub-culture of poverty

People often talk of disadvantaged groups as if they were sub-cultural groups, emphasizing their different cultural characteristics as seen from outside and neglecting their role as constituents of the official culture.**

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* Kaes, R.: "Représentation ouvrières de la culture" in Economie et Humanisme, May-June 1967 No. 174, P. 63-76.

** See Lesemann, Fr., "A propos de la culture de la pauvreté", Service Social, Univ. of Montreal, 1970, No. 28, P. 1-13.

The cultural differences of these groups are seen as entities in themselves, independent of the fact that the groups exist as a sub-culture of dependence in the sense that they only exist as part of the global culture. Thus the notion of poverty, as pointed out by Lewis,* is basically an eminently social concept because it is seen in relation to a particular age, in terms of the inadequacy of resources essential to the subsistance and development of individuals and groups.

The tendency to define the culture of groups as if their nature and characteristics were cultural entities in themselves, independent of the relationship between these social groups, is common practice, even in Sociology, according to Lesemann.** However it does not make sense to speak of a poverty culture, as such, because it is obvious that the poor do not have their own technology nor do they have a sense of membership and cultural participation in relation to a high degree of social organization and to a relatively integrated and independent culture. The poverty culture exists only in relation to the dominant culture upon which it depends and which produced it. It is basically defined in terms of want, privation, indigency compared to those who are wealthier and of socio-economic, political, cultural inferiority in a given historic and social period. It is lack, insufficiency, diviance and distortion of the official culture, but it is all these things in relation to a given social organization based on the rate of production. In this sense it is linked, by definition, to the values, aspirations, attitudes and behavioural norms held by society, even though it has its own justifications and self-defence mechanisms, such as, values, behaviour, way of life, which enable it to survive in spite of a profound sense of alienation vis-à-vis the global culture.

Lewis says that the poverty culture is a "Western Social sub-culture."

"The dominant class affirms a set of values which gives priority to saving, to the accumulation of wealth and property, emphasizes the feasibility of climbing the social ladder and blames an infeiror economic position on inferiority and personal inadequacy ....

The values of the poor become both an adaptation and a reaction to their marginal position in a class-structured society. They represent an effort on the part of the members of marginal communities in these societies to overcome feelings of hopelessness and despair which arise from the fact that they realize how inlikely it is that they will succeed under the conditions imposed by the predominant aims and values."***

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* Lewis,O., "La culture de pauvreté", in Economie et Humanisme, 1967, no. 174, p. 77 to 81.

** Lesemann, Fr., Op. cit. p. 7.

*** Lewis, O., op. cit., p. 78-79.

The problem of poverty and destitution is, then, a problem that faces society as a whole in terms of the organization of the division of labour, production ratios and the distribution of authority and of cultural resources. It is, therefore, a socio-economic, political, cultural problem which touches the very foundation of the organization of social relationships in a society which allows indigence for some and ostentatious consumption for others.

In this regard, it is essential to realize that the democratization of education, as it is now available, cannot have much effect, in itself, on poverty unless, at the same time, some changes in present services, such as, labour, health, recreation, social services and town planning, are envisaged by our society, to encourage the social and individual development of those who are social misfits.

3. Basis for the classification of criteria

The concept of inequality reveals the comparative aspect of methods used to identify poverty. A person may be poor in himself (actual poverty); but he is also always poor in relation to others who are better off. The criteria used to ascertain whether one group is more advantaged than another must now be examined.

It can be assumed that all those, whatever their ideological position, who are interested in the poverty problem would acknowledge, both implicitly and explicitly, the variable and comparative aspect of the inequalities identified in classifications and for this reason, confirm the relativity of the concept of poverty.

These criteria can all be relative* simultaneously from a quantative and qualitive point of view, depending upon the society in which one lives. Thus in country X, whether a person has a bathtub or is uneducated reveals nothing in itself about the relative state of poverty of different groups in that society. Nothing is gained by proving that the disadvantaged in our environment are not really as deprived as some of the people in India and certain countries in Africa and South America. Poverty, indigence and destitution are always relative to the socio-economic and cultural level attained, or attainable, by a given society in a given economic and cultural context. The person without a bathtub or television in Africa does not suffer the lack as much, in fact very little, psychologically and culturally, compared to someone living in Montreal for whom such things are an absolute necessity if he is to have an economic and cultural standard of living which will enable him to participate fully as a citizen in society. It is the same with education, income, housing conditions, health, recreation, and so on.

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* The concept of relativity does not, in the least, lessen the true impact of poverty on individuals in any society whatsoever as will be seen in the following pages.

The extent to which individuals, without the basic essentials, live apart on the fringe of society, and also how they can depend almost totally on this society when they reach a certain poverty threshold, should be taken into account here. These people find themselves completely *deprived socially in an almost heriditary way*, if one considers the really destitute children who do not even have enough food or clothing and who cannot rely on their parents who are themselves utterly deprived, compared to the society in which they live.

This dependence can be utilized in different ways both by those who experience it day by day and by those who see it from the outside. It can be a *dependence that society encourages* because certain social groups do not want to give up any share of their privileges or their economic and cultural prerogatives. The status quo is maintained, consciously or unconsciously, by letting these people *subsist*, chronically unemployed and socially assisted, and encouraging a passivity which engenders a negative self-image, an unbearable sense of guilt in the face of the important socio-cultural status accorded to the active person, the worker who provides for his family and succeeds in finding his place in the sun in society. The normal consequences of this marginal life are alcoholism, delinquence, mental retardation, theft, prostitution, broken homes, mental illness and so on. Certain privileged groups, feeling guilty about this dependence, *shift the blame for it on to those who live this way* by declaring that "anyone who wishes to get out of such a situation, could do so on his own and if there are people in poor circumstances they have only themselves to blame, they do not really want to do anything about it." In fact, a close examination of the situation shows that it is not only a question of wanting, but of being able socially, "to get out"; "getting out" basically meaning, having equal rights and resources, socially, culturally and politically speaking, to develop as a full citizen.

The problem of disadvantaged environments and the educational institution having been briefly stated, the method used to identify disadvantaged areas on the Island of Montreal can now be explained. It is important to note here that *all the strictly technical aspects of the study are to be found in the technical appendix* at the end of this report. It gives a more in-depth and scientific explanation of the indicators used to achieve the solution of the stated problem.

II - RESEARCH OBJECTIVE

The aim of this study is to identify the census districts where disadvantaged families are concentrated in the area served by the School Council of the Island of Montreal. Priority should be given to these areas when special intervention programmes are initiated at the school level.

It was not the purpose of the study to locate disadvantaged families in the Montreal area, as they can be found almost everywhere, but rather to identify areas in which disadvantaged families are concentrated and in which conditions peculiar to this kind of environment, such as, criminality, high incidence of mental illness, run-down dwellings, are found. If disadvantaged families are to break out of this situation, they must contend, not only with their personal conditions, but also with those of their environment. An attempt to check the accelerating poverty cycle must be made through a combination of global measures initiated at both the individual and community level and one of the most important of these, is appropriate action at the school level.

It is a question then, of identifying disadvantaged areas by means of a number of socio-economic or socio-cultural factors, each of which must be clearly characteristic of a disadvantaged area and a true indicator of a particular condition. A combination of these indicators will enable us to identify disadvantaged areas. The following example will explain what an indicator is and why several must be used: we are in Montreal and we wish to know what season it is. As we have no calendar we must look to nature for indicators or characteristics proper to one season. Thus, if we see that it is quite cold, that there is a lot of snow on the ground and that there are no leaves on the trees, we may be certain that these are characteristics of winter and therefore, indicators of the winter season. However, it is possible that there may be quite a cold day late in the fall and for this reason we use several indicators simultaneously to increase the reliability of our diagnosis and to minimize any possibility of error. Thus, in the framework of this study, a census district may not, strictly speaking, be advantaged according to one particular indicator but it may be clearly advantaged according to other ones. These indicators are represented by variables derived from statistical data taken from the 1971 census. The selection of variables was based on research which showed the impact of various socio-economic, ecological or cultural factors on the development of individuals and groups in our industrial societies but was also influenced by the limitations imposed by the refinement of data available when this study was made. By paring down a pre-established list of variables which could be used as indicators of social, economic and cultural inequalities between the census districts of the Island of Montreal, it was possible to arrive at seventeen* which were definitely characteristic of disadvantaged areas, while at the same time, recognizing that an available indicator (e.g. number of persons per room) might not always be appropriate for the measurement needed (e.g. overcrowding). In the selection of indicators, their relevance to an educational approach to problems in disadvantaged areas was taken into account.

As indicated in the statement of the problem, any meaningful study of disadvantaged areas must cover three aspects: the economic or "economico-cultural", the cultural and the ecological (condition of the environment), and each of the selected indicators relates to one or other of these aspects. The list of variables which could be derived from available data and which are likely, according to our hypothesis, to prove accurate indicators of disadvantaged areas is given below.

A) Economic or "economico-cultural aspect

a) the number of families with one or more children and with a total income in 1970 of less than $5,000 a year, as a percentage of the total number of families with one or more children under 18 years of age.

b) the number of families with one or more children under 18 years of age and with a total income in 1970 of $10,000 or more, as a percentage of the total number of families with one or more children under 18 years of age.

c) the number of men who had one or more children under 18 years of age and who were unemployed in June 1971, as a percentage of the total population.

d) the number of men with one or more children under 18 years of age and employed as manual workers in June 1971, as a percentage of the total number of fathers.

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* The first selection included an 18th variable which was meant to measure social isolation. Social isolation is a very important factor, and in disadvantaged areas, a very determinant one in considering the problems involved in adapting to environment and consequently, in adapting to school, but it proved impossible to use this factor since the only variable available to measure it, did not support the hypothesis that this was a phenomenon peculiar to disadvantaged areas. In fact the only variable that could be derived from available data was "the number of lodgings occupied by one person as a percentage of the total number of lodgings" and it is obvious that this number is proportionally the same in areas which are not disadvantaged as in those that are.

e) the number of men with one or more children under 18 years of age and with administrative, professional or technical occupations in June 1971, as a percentage of the total number of fathers.

f) the number of families without children under 18 years of age and with a total income in 1970 of less than $3,000 a year, as a percentage of the total number of families without children under 18 years of age.

g) the number of lodgings with one or more lodgers in June 1971, as a percentage of the total number of lodgings.

B) Cultural Aspect

a) the number of women with one or more children under 18 years of age and with seven years of schooling or less in June 1971, as a percentage of the total number of mothers.

b) the number of women with one or more children under 18 years of age and with twelve years schooling or more in June 1970, as a percentage of the total number of mothers.

c) the number of persons between 15 and 18 years of age in June 1971 who did not attend school full-time during the 1970-71 school year, as a percentage of the total number of persons between 15 and 18 years of age.

d) the number of persons between 19 and 24 years of age in June 1971 who did not attend school full-time during the 1970-71 school year, as a percentage of the total number of persons between 19 and 24 years of age.

e) the number of families with five or more children, as a percentage of the total number of families with one or more children.

f) the number of single-parent families in June 1971, as a percentage of the total number of families with one or more children.

C) Ecological Aspect

a) the number of lodgings without a bath or shower in June 1971, as a percentage of the total number of lodgings.

b) the average number of persons per room for all the lodgings in the district.

c) the number of persons coming from non-metropolitan regions in Quebec or from another Canadian province who, in June 1971, had been 5 years or less in the Montreal area, as a percentage of the total population.

d) the number of immigrants who arrived in Canada during the five years before June 1971, as a percentage of the total population.

These variables were systematically tested to eliminate any that did not have a strong enough correlation with each of the others. A detailed description of the techniques used for this purpose will be found in the appendix.

III - VARIABLES WHICH WERE NOT USED TO IDENTIFY DISADVANTAGED AREAS.

The 17 variables were examined to determine their validity as true indicators of disadvantaged environments. It was found that 4 of the variables did not meet the criterion established to evaluate their relevance as indicators of a disadvantaged area. As explained in detail in the appendix, the criterion used was that each variable must have a fairly close correlation with each of the other variables. A correlation test was made where each variable was compared to each of the others to measure the degree and significance of their relationship.* The selection procedure was based on the premise that by using theoretical study, practical experience and information contained in scientific literature, it was possible to establish variables, the majority of which, if not all, constitute true indicators of disadvantaged areas. From the beginning then, the majority of variables selected are true indicators of disadvantaged areas so that if a variable is significantly related to each of the others this, in itself, is proof of its validity as a poverty indicator.

The rejection of these 4 variables does not mean that they will not be relevant in planning future intervention programmes in these areas. For example, even if the concentration of immigrants in different districts does not necessairly indicate the existence of a disadvantaged area, it will still be useful to know whether the school population in a disadvantaged area comes mainly from immigrant families or not.

Let us now examine the 4 rejected variables.

Overcrowding: the average number of persons per room for all the lodgings in the district

The correlation test failed to show that overcrowding, as measured by available data, is a characteristic peculiar to disadvantaged areas for families with school-age children. As explained in the appendix, this variable poses several problems. It was primarily, the unavailability of certain data which made it impossible to evaluate the true relevance of this variable as an indicator of disadvantaged areas.

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*A detailed explanation of the method used is given in the technical appendix.

Immigration: the number of immigrants who arrived in Canada during the five years before June 1971, as a percentage of the total population.

Migration: the number of persons coming from non-metropolitan districts in Quebec or from another Canadian province who, in June 1971, had been 5 years or less in the Montreal area, as a percentage of the total population.

Correlation tests used to determine the acceptance or rejection of variables measuring migration and immigration as indicators of disadvantaged areas, showed that districts with a high concentration of migrants or immigrants do not necessarily tend to be districts including disadvantaged areas.

Migration and immigration during the past five years was measured, but if the variable had taken into consideration only those populations which have migrated during the last one or two years, in other words, those who have just arrived, we might in fact have found that districts with a large proportion of immigrants and migrants, (e.g. those who have arrived in the previous 1 or 2 years) tend to be disadvantaged. However, this is a hypothesis that is still to be proved and the fact remains that if immigrants and migrants are defined as persons who have arrived within the past five years, we cannot necessarily link immigration and migration with disadvantaged areas.

The non-attendance of the 19-24 age-group at school: the percentage of persons between 19-24 years of age in June 1971 who did not attend school full-time during the school year 1970-71, as compared to the total number of persons between 19 and 24 years of age.

It might at first sight seem surprising that this variable should be rejected as not being a good indicator of a disadvantaged area while the variable concerning the non-attendance of the 15-18 age-group at school is retained, but there is a simple enough explanation. Let us consider, for the purpose of explanation, three family income groups: less than $5,000., $5,000. - $10,000. and over $10,000. It is found that the proportion of the 15-18 age-group not attending school is lower for families with incomes from $5,000. to $10,000. than for families with incomes less than $5,000. and that the proportion is lowest of all for families with incomes over $10,000. It can thus be said that the proportion of the 15-18 age-group who no longer attend school is a good indicator of a disadvantaged area. There is a very clear difference in the case of the 19-24 age-group where it is found that the proportion of those not attending school is not, on the average, lower when the family income is between $5,000. and $10,000. than when it is less than $5,000.; there is a definite tendency, however, for the proportion not attending school to be lower when the family income is over $10,000. than when it is either below $5,000. or between $5,000. and $10,000. In other words, a high rate of non-attendance at school for the 19-24 age-group does not appear to be a particular characteristic of "poor" families, i.e. those whose income is less than $5,000., since it is equally characteristic of families with "moderate" incomes, i.e. between $5,000. and $10,000.

This would seem to show that, at least in 1971, the democratization of education did not allow young people from "moderate" income families greater access to university than those from "poor" families. The variable of non-attendance at school for the 19-24 age-group is consequently as much an indicator of a disadvantaged area as of a middle income area, i.e. one which is neither advantaged nor disadvantaged, which explains its rejection.

IV THE RESULTS OF THE STUDY

As we have seen, 4 of the 17 original variables have been rejected. It is now a question of determining the census districts which are disadvantaged according to all of these 13 variables. It is important to understand that, in the present study, a disadvantaged district is defined by means of not one but all of the 13 indicators. For example, it is possible that a district may not, strictly speaking, be disadvantaged from the point of view of income, but that it may be from the point of view of the other variables that were retained. This is explained by the fact that even if the remaining variables have a relatively high rate of correlation with each other, this correlation is far from being perfect, so that none of the variables truly represents all of the others. The districts that are the most disadvantaged according to all the variables, should thus be the first to have intervention programmes.

Three problems had to be considered before it was possible to identify the disadvantaged areas on the Island of Montreal.

a) The problem of demographic inequality between the census districts.

The total number of families in the census districts of the Island of Montreal varies significantly, from one district to another. There must be a large enough number of disadvantaged families in any concentration of such families for the percentage to show that this is truly a disadvantaged area. This problem has been taken into account by combining the percentage and the actual number of each of the variables according to a formula which is explained in the supplement.

b) The standardization of different variables

The 13 variables do not have the same range of variation. For this reason, identification of districts that are really disadvantaged cannot be made exclusively on the basis of the level itself of the variables even when the variables are weighted. It was necessary to subdivide the maximum range of variation of the weighted value of each variable into 50 divisions or "ranks". A detailed explanation of this measure is found in the appendix.

c) The weight of each variable in the procedure used to identify disadvantaged areas.

It will be understood that the 13 variables do not have the same importance as indicators of disadvantaged areas, and to avoid assigning them different weights in an arbitrary fashion, it was decided to use a method which could objectively assess the importance which each of the variables should have in the procedure used to identify disadvantaged areas.

This formula takes into consideration the fact that the better an indicator the variable proves to be, the greater its weight should be in the identification process. It is the level of the correlation between one variable and each of the others which measures the extent to which this variable constitutes a good indicator of a disadvantaged environment. Thus the higher this correlation is, on the average, the greater the weight the variable in question should have in the identification process since the higher the correlation is, on the average, the better an indicator the variable is found to be. This is why the weight each variable will carry in the identification process will be directly proportional to this "average correlation". The procedure is explained in detail in the technical appendix.

d) The Global Index

The disadvantaged districts of the Island of Montreal have been identified by means of a numerical index, called "the Global Index", which measures to what degree each of the census districts is disadvantaged according to all of the 13 indicators.

The Global Index value for each of the 416 census districts of the Island of Montreal has been calculated by means of an algebraic formula.* In a given district, the Global Index value is equal to the sum of the ranks held by that district for each of the 13 variables, each of these ranks being multiplied by the relative weight of the variable to which it pertains.

1. The disadvantaged districts of The Island of Montreal

The study has identified 65 census districts which include disadvantaged areas and these are listed in Table 1. It was decided to define, as districts including disadvantaged areas, all those census districts whose Global Index value is less, by more than a standard deviation, than the average Global Index value for the 416 census districts of the Island of Montreal.

The districts are presented in increasing order according to their Global Index value, which means that the district with the lowest Global Index value will be the most disadvantaged and will be placed at the top of the list. The table consists of the district members, the corresponding Global Index value, the geographical boundaries of each district and the name of the city in which the disadvantaged areas are located.

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* The formula is explained in the appendix.

TABLE I

LIST OF CENSUS DISTRICTS WHICH INCLUDE A DISADVANTAGED AREA IN INCREASING ORDER ACCORDING TO THEIR GLOBAL INDEX VALUE

District No.	Global Index Value	Geographical Boundaries	City
74	16	North - CN line East - CN line South - Wellington St. West - city limit and extension	Montreal
139	19	North - Mt. Royal Ave., E. East - St. Denis St. South - Rachel St., E. West - St. Lawrence Blvd.	Montreal
136	20	North - Rachel St., E. East - Laval Ave. South - Pine Ave., E. West - St. Lawrence Blvd.	Montreal
46	21	North - Ontario St., E. East - Papineau Ave. South - Logan St., E. West - La Visitation St.	Montreal
79	21	North - CN line East - Atwater Ave. South - Lachine Canal West - St. Marguerite St. and extensions	Montreal
610	22	North - Rivière des Prairies (city limit) East - city limit and city limit (south) South - Lacordaire Blvd. and extensions	Montreal North
259	22	North - city limit (NE) South - 39th St. West - Pie IX Blvd.	Montreal
611	22	North - Henri Bourassa Blvd. East - Lacordaire Blvd. South - city limit West - Pigeon Ave.	Montreal North
590	23	North - Metropolitan Blvd. East - city limit South - city limit and Normandie St. West - Roi-René Blvd.	Anjou
163	23	North - St. Joseph Blvd. W. East - St. Lawrence Blvd. South - Mt. Royal Ave., W. West - Park Ave.	Montreal

TABLE I (cont.)

District no.	Global Index Value	Geographical Boundaries	City
171	23	North - CP line East - St. Denis St. South - St. Joseph Blvd., E. West - St. Lawrence Blvd.	Montreal
48	24	North - Sherbrooke St., E. East - De Lorimier Ave. South - Ontario St., E. West - Papineau Ave.	Montreal
262	24	North - Louvain St. East - St. Michel Blvd. South - Emile-Journeault Ave. and extension West - Papineau Ave.	Montreal
161	25	North - Villeneuve St. E. East - St. Denis St. South - Mount-Royal Ave., E. West - St. Lawrence Blvd.	Montreal
169	25	North - Bernard St., W. East - St. Urbain St. South - St. Joseph Blvd.,W. West - Esplanade Ave., Fairmount Ave., W. and Esplanade Ave.	Montreal
60	25	North - Ontario St., E. East - Sanguinet St. South - Bois Briand St. West - St. Dominique St.	Montreal
83	25	North - CN line East - St. Marguerite St. and extensions South - Lachine Canal West - St. Rémi St.	Montreal
221	25	North - St. Roch St. East - Bloomfield Ave. and extension South - city limit West - city limit	Montreal
167	25	North - CP line East - St. Lawrence Blvd. South - Bernard St., W. West - Park Ave.	Montreal
72	25	North - Wellington St. East - Bridge St. and Victoria Bridge South - St. Lawrence River (city limit) West - city limit	Montreal

TABLE I (cont.)

District no.	Global Index Value	Geographical Boundaries	City
68	25	North - CP line East - Guy St. South - St. James St., W. West - Georges-Vanier Blvd., St. Antoine St. Cumming St. and extension	Montreal
417	25	North - city limit East - St. Germain Blvd., Poirier St. and Cardinal St. South - Rochon St. and extension West - Laurentian Blvd.	St. Laurent
224	26	North - Metropolitan Blvd. East - CP line South - The extension of, and St. Roch St. West - Bloomfield Ave.	Montreal
220	26	North - St. Roch St. and extension East - CP line South - CP line and city limit West - the extension of, and Bloomfield Ave.	Montreal
218	26	North - Jean Talon St., E. East - St. Denis St. South - St. Zotique St., E. West - St. Lawrence Blvd.	Montreal
67	26	North - CP line East - the extension of, and Cumming St., St. Antoine and Georges Vanier Blvd. South - St. James St., W. West - Atwater Ave. and city limit	Montreal
170	26	North - Bernard St., W. East - St. Lawrence Blvd. South - St. Joseph Blvd., W. West - St. Urbain St.	Montreal

TABLE I (cont.)

District No.	Global Index Value	Geographical boundaries	City
290	26	North - Riviere des Prairies (City limit) East - 60th Ave., Gouin Blvd., E.& Riviere des Prairies Blvd. South - City limit West - City limit	Montreal
12	26	North - Sherbrooke St., E. East - Langelier St. South - Hochelaga St. West - Duquesne St.	Montreal
44	26	North - Ontario St., E. East - La Visitation St. South - St.Catherine St., E. West - Amherst St.	Montreal
168	26	North - Bernard St., W. East - Esplanade Ave., Fairmount Ave., W. & Esplanade Ave. South - St. Joseph Blvd., W. West - Park Ave.	Montreal
144	26	North - Duluth Ave., E. East - Lafontaine Park St. South - Sherbrooke St., E. West - St.Hubert St.	Montreal
616	26	North - Henri Bourassa Blvd. East - Pigeon Ave. South - Castille St. West - Pie IX Blvd.	Montreal North
267	26	North - CN line East - St. Lawrence Blvd. South - Metropolitan Blvd. West - CP line	Montreal
242	26	North - Villeray St. East - Des Erables Ave. South - Jean Talon St., E. West - Papineau Ave.	Montreal

TABLE I (cont.)

District No.	Global Index Value	Geographical Boundaries	City
39	26	North - Maisonneuve Blvd., E. Havre St. & St.Catherine St., E.	Montreal
		East - Rodin St. & extension	
		South - St. Lawrence River (city limit)	
		West- - Jacques Cartier Bridge & De Lorimiere Ave.	
3	27	North - Sherbrooke St., E.	Montreal
		East - City limit	
		South - Boyce St.	
		West - Mousseau St.	
165	27	North - CP line	Montreal
		East - Park Ave.	
		South - Edouard-Charles St.	
		West - City limit	
217	27	North - St. Zotique St., E.	Montreal
		East - St. Denis St.	
		South - Beaubien St., E.	
		West - St. Lawrence Blvd.	
78	27	North - St. James St., W.	Montreal
		East - Georges Vanier Blvd. & extension	
		South - Lachine Canal	
		West - Atwater Ave.	
181	27	North - Masson St.	Montreal
		East - 9 th Ave. Laurier Ave. E., & 7th Ave.	
		South - Gilford St., 4th Ave. & St. Joseph Blvd. E	
		West - CP line & Iberville St.	
252	27	North - Francois-Perrault St., Michel Ange St. & Everett St.,	Montreal
		East - 19th Ave.	
		South - Belanger Ave.	
		West - 13th Ave.	

TABLE I (cont.)

District No.	Global Index Value	Geographical Boundaries		City
617	27	North	- Riviere des Prairies (city limit)	Montreal North
		East	- the extension of,& Lacordaire Blvd.	
		South	- Henri Bourassa Blvd.	
		West	- Pigeon Ave.	
251	27	North	- Metropolitan Blvd.	Montreal
		East	- 13th Ave., Francois Perrault St. & 13th Ave.	
		South	- Bélanger St.	
		West	- 6th Ave.	
179	27	North	- Rosemont Blvd.	Montreal
		East	- Iberville St.	
		South	- CP line	
		West	- Papineau Ave.	
580	27	North	- Sherbrooke St. & City limit	Pointe-Aux-Trembles
		East	- Riviere des Prairies	
		South	- St. Lawrence River(city limit)	
		West	- the extension of, & 34th Ave., Notre Dame St. & 53rd. Ave.	
613	28	North	- Prieur St.	Montreal North
		East	- Pie IX Blvd.	
		South	- City limit	
		West	- City limit	
584	28	North	- City limit	Pointe-Aux-Trembles
		East	- St. Jean Baptiste St.	
		South	- St. Lawrence River(city limit)	
		West	- City limit	
22	28	North	- Adam St.	Montreal
		East	- Joliette St. & extension	
		South	- St. Lawrence River(city limit)	
		West	- the extension of & Darling St.	
258	28	North	- 39th St.	Montreal
		East	- City limit	
		South	- City limit & Jarry St.,E.	
		West	- Pie IX Blvd.	
37	28	North	- Ontario St.,E.	Montreal
		East	- CP line	
		South	- St.Catherine St.E.,Havre St., & La Fontaine St.,E. & Extension.	
		West	- De Lorimier Ave.	

TABLE I (cont.)

District No.	Global Index Value	Geographical boundaries	City
77	28	North - St. James St.,W. East - Guy St. & extension South - Lachine Canal West - the extension of, & Georges Vanier St.	Montreal
92	28	North - City limit East - Newman Ave. & Jolicoeur St. South - Monk Blvd. West - Allard St.	Montreal
135	28	North - Rachel St.,E. East - St. Denis St. South - Pine Ave.,E. West - Laval Ave.	Montreal
180	28	North - Rosemont Blvd. East - 3rd Ave. South - Masson St. West - D'Iberville St.	Montreal
19	28	North - CN line East - Letourneux Ave & extension South - St.Lawrence River(city limit) West - The extension of,& Pie IX Blvd.	Montreal
94	28	North - CP line East - city limit, the extension of, & Route 20 South - Lachine Canal & city limit West - City limit	Montreal
325	28	North - Newman Blvd. East - City limit South - Montreal Aqueduct West - Dollard Ave. & CP line	LaSalle
209	28	North - Bélanger St. East - Papineau Ave. South - CP line West - St.Marguerite St.	Montreal

TABLE I (cont.)

District No.	Global Index Value	Geographical boundaries	City
81	28	North - City limit	Montreal
		East - City limit & Rose-de-Lima St.	
		South - CN line	
		West - St. Marguerite St.	
301	28	North - Joseph St. & Atwater Ave.	Verdun
		East - City limit	
		South - Wellington St.	
		West - Regina Ave.	
75	28	North - the extension of,& Centre St.	Montreal
		East - Shearer St.	
		South - CN line	
		West - CN line	
15	28	North - CN line	Montreal
		East - CN line	
		South - the extension of, & Adam St.	
		West - Sicard St.	
45	28	North - Logan St.,E.	Montreal
		East - Papineau Ave.	
		South - St. Catherine St.,E.	
		West - La Visitation St.,	
257	28	North - Emile-Journault & extension	Montreal
		East - Pie IX Blvd.	
		South - Jarry St.E.,	
		West - St. Michel Blvd.	

2. The census districts which have not been considered to include a disadvantaged area.

Table II lists the Global Index value for all the other census districts of the Island of Montreal which according to the Global Index, are not considered to include disadvantaged areas. These districts are presented in increasing order according to their Global Index value. It is interesting to note that the districts whose Global Index value is 29 or 30, are listed between a half and a standard deviation below the average Global Index value.

TABLE II

District No.	Global Index value	District No.	Global Index value	District No.	Global Index Number
256	29	9	31	364	32
223	29	250	31	614	32
395	29	243	31	208	32
24	29	13	31	207	32
603	29	28	31	583	32
20	29	151	31	200	32
582	29	212	31	101	32
84	29	185	31	184	32
76	29	612	31	183	32
210	29	25	31	90	32
305	29	311	31	188	32
241	29	38	31	581	32
14	29	49	31	6	32
142	29	51	31	172	32
93	29	41	31	5	32
34	29	160	31	80	32
133	29	155	31	158	32
52	29	18	31	157	32
		122	31	156	32
302	30	149	31	36	32
219	30	87	31	150	32
27	30	35	31	194	32
330	30	249	31	177	32
82	30	141	31	140	32
216	30	394	31	17	32
307	30	23	31	1	32
605	30	16	31	211	32
306	30	570	31	88	32
186	30			132	32
600	30	253	32		
159	30	30	32	260	33
263	30	248	32	300	33
29	30	245	32	239	33
393	30	7	32	119	33
326	30	291	32	232	33
147	30	233	32	56	33
178	30	112	32	215	33
138	30	222	32	618	33
615	30	214	32	604	33

TABLE II (cont.)

District No.	Global Index value	District No.	Global Index value	District No.	Global Index value
261	33	213	34	367	35
97	33	202	34	363	35
47	33	201	34	591	35
419	33	550	34	50	35
390	33	198	34	327	35
89	33	197	34	324	35
26	33	602	34	323	35
174	33	182	34	321	35
86	33	411	34	313	35
365	33	176	34	312	35
237	33	43	34	310	35
162	33	391	34	148	35
4	33	206	34	278	35
2	33	42	34	69	35
308	33	164	34	277	35
303	33	328	34	137	35
146	33	320	34	271	35
73	33	175	34	269	35
143	33	287	34	134	35
96	33	70	34	266	35
275	33	276	34	65	35
274	33	66	34	32	35
273	33	265	34	8	35
33	33				
152	33	255	35	127	36
		247	35	193	36
31	34	123	35	61	36
254	34	59	35	120	36
124	34	236	35	238	36
246	34	118	35	58	36
244	34	230	35	116	36
240	34	228	35	227	36
11	34	354	35	113	36
235	34	601	35	111	36
234	34	203	35	53	36
117	34	199	35	205	36
231	34	192	35	592	36
226	34	490	35	540	36
204	34	187	35	196	36
619	34	392	35	95	36

TABLE II (cont.)

District No.	Global Index value	District No.	Global Index value	District No.	Global Index value
190	36	316	37	530	39
430	36	154	37	514	39
418	36	314	37	512	39
410	36	153	37	432	39
10	36	309	37	431	39
396	36	283	37	413	39
173	36	280	37	397	39
85	36	279	37	383	39
350	36	272	37	361	39
329	36	131	37	355	39
322	36			352	39
304	36	64	38	351	39
285	36	128	38		
282	36	126	38	513	40
281	36	62	38	453	40
270	36	57	38	451	40
		55	38	421	40
130	37	108	38	382	40
63	37	105	38	362	40
125	37	104	38	360	40
225	37	103	38	317	40
110	37	102	38		
109	37	98	38	523	41
107	37	500	38	522	41
106	37	491	38	520	41
594	37	420	38	470	41
593	37	416	38	461	41
585	37	402	38	452	41
100	37	385	38	401	41
99	37	380	38	356	41
515	37	315	38	353	41
195	37	288	38	340	41
511	37	286	38		
510	37	284	38	480	42
191	37	268	38	400	42
433	37	264	38	370	42
415	37			354	42
412	37	129	39	404	43
381	37	121	39	403	43
366	37	115	39	521	44
166	37	114	39	460	45
				462	49

3. The meaning of the Global Index

The adjustment which was introduced at the level of each variable to account for the demographic inequality between the census districts and which is therefore included in the Global Index, means that the Global Index which represents the relative degree to which census districts are "disadvantaged", also measures the numerical importance of the concentrations of disadvantaged families within each district. The Global Index thus takes into account both the percentage and the actual number of disadvantaged families in the districts. For example, the fact that 25% of the families in one district, representing 4,000 families, are disadvantaged while in another district 50% are disadvantaged but only represent 2,000 families, is taken into account in the Global Index. In this case, the relative degree to which the two districts are "disadvantaged" would be exactly the same, according to the method used in this study. The use of this method of adjustment is explained in detail in the appendix but it is important to remember at this point that the Index number for each census district is directly influenced by the actual numbers themselves and not only by their relative importance. One of the most interesting results of this procedure has been that it has ensured that only concentrations of disadvantaged families with some numerical importance are selected.*

4. The lack of homogeneity of the census districts and its implications

The 65 census districts described in Table I are geographical areas in which disadvantaged zones of some significance in terms of the relatively high number of school age children living there, have been found. As has been mentioned previously, and as discussed in the technical appendix to this report, the different census districts of the Island of Montreal are not sufficiently homogeneous from either a socio-economic or cultural point of view. The same may be said of some of the 65 disadvantaged districts which have been identifed. If, in several of these 65 districts, it may be considered that, for all practical purposes, the entire school-age population actually lives in a socio-economically and culturally deprived area, the same cannot be said for each and every one of the 65 districts. Some of these districts, even though they include an important disadvantaged area, must nevertheless be considered to have a not inconsiderable, though not a high, proportion of their total school-age population actually living in a clearly advantaged socio-economic and cultural environment. This is particularly the case in the following census districts:

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* For example, a census district would not be considered to include a disadvantaged area if it had only 30 families with school-age children, even if three-quarters of them were clearly disadvantaged socio-economically and culturally.

325
610
611
617

A close examination of data for these four districts has shown that a fairly high proportion of the total school age population lives in an environment which must be considered as "neither advantaged nor disadvantaged". The extent to which the 65 "disadvantaged districts" lacked homogeneity could not be estimated owing to the lack of data available for each individual census district. It has been possible, however, to reach certain conclusions, though naturally rather inaccurate, regarding the degree of homogeneity of the 65 census districts listed in Table I, by studying such variables as the proportion of families whose total income is over $10,000, the proportion of parents with 12 or more years of schooling and particularly, the proportion of fathers with administrative, professional or technical occupations.

There are other areas among the 65 "disadvantaged districts" where, even if the proportion of the total school-age population living in a clearly disadvantaged environment is actually negligible, there is, none the less, a fairly high proportion of the total school-age population living in what may be regarded as an environment which, socio-economically and culturally speaking, is "neither advantaged nor disadvantaged". This is the case in the following census districts:

3
12
267
290
417
580
584
613
616

Finally, the remaining "disadvantaged districts" are either districts in which, for all practical purposes, almost all the school-age population may be considered to live in a deprived environment, or districts in which, even though a very large proportion of the total school-age population lives in a deprived environment, a not inconsiderable proportion live in what may be considered a "neither advantaged nor disadvantaged" environment.

In conclusion, it was found that it was preferable to speak of the 65 census districts detailed in Table I, not in terms of "disadvantaged districts", but in more exact terms as "districts which include an important disadvantaged area from the socio-economic and cultural point of view."

V. - DISTRIBUTION, BY SCHOOL BOARD, OF THE SCHOOL POPULATION IN DISADVANTAGED AREAS

In the 65 census districts which may be considered to include disadvantaged areas* there were, in June 1971, 117,540 children under 15 years of age or approximately 25% of the total number of children under 15 years of age on the Island of Montreal. Since this analysis was made according to census districts many of which, as has been shown, are sufficiently heterogeneous from the point of view of the socio-economic and cultural characteristics of their population so that in one district both a "disadvantaged" and an "advantaged" area may be found, it is obvious that all of these 117,540 children do not necessarily live in a disadvantaged family or community environment. This is an important point which should be kept in mind when considering the results of the calculations which have been made.

If the hypothesis is made, that for each of the 65 census districts, the distribution of the population of 15 years of age and under, between Roman Catholic and now Roman Catholic will be the same as for the total population, and this can be calculated from available data, it will be found that there are 99,109 Catholic children 15 and under, and 18,431 non Catholic children 15 and under, in the 65 disadvantaged areas in June 1971. It must be acknowledged that this hypothesis is, to a certain extent, inaccurate but it is, at the same time, sufficiently realistic, as it is difficult to imagine that only 40% of the children 15 years of age and under, are Catholic in a district in which 80% of the total population is Catholic.

Given that there is no disadvantaged district within the territory served by the Lakeshore School Board, it follows that the 18,431 children, which are assumed, according to our hypothesis, to be non-Catholic, come under the jurisdiction of the Protestant School Board of Greater Montreal. The distribution of 99,109 children, assumed to be Catholic, between the different Catholic school boards is very simple since the area of jurisdiction of each school board is known. The results are shown in Table III.

These results are obviously approximate, as the confidentiality of data concerning individual census districts made it impossible to obtain exact results. To arrive at such results would require information concerning the religion of children living in disadvantaged areas within those census districts considered to include such areas; this information, however, is only available for groups of disadvantaged census districts. This will be a matter to be looked into after the identification of disadvantaged districts which is the purpose of the present study, is completed.

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* For the purposes of this study, the population under 15 years of age in June 1971, was chosen because, with the rapid changes that have taken place in the last few years in the structure of age groups, it appeared that this population would most closely approximate the present school population, i.e. at the end of 1974.

TABLE III

DISTRIBUTION, BY SCHOOL BOARD, OF CHILDREN UNDER 15 YEARS OF AGE WHO LIVE IN DISADVANTAGED DISTRICTS

	Number	Percentage
Commission des Ecoles Catholiques de Montréal	83,343	70.9%
Protestant School Board of Greater Montreal	18,431	15.7%
Commission Scolaire Jérôme-Le Royer	7,963	6.8%
Commission Scolaire Sault St-Louis	4,472	3.8%
Commission Scolaire Ste-Croix	1,898	1.6%
Commission Scolaire de Verdun	1,433	1.2%
TOTAL -for all the disadvantaged districts	117,540	100.0%

Note: For the purposes of calculation, it was necessary to assume that the proportion of Catholics among children under 15 years of age in each disadvantaged district is the same as that of the district's total population and therefore, the figures in this table are not strictly accurate.

VI AVAILABLE SUPPLEMENTARY INFORMATION WHICH IS NOT INCLUDED IN THIS REPORT

In addition to the results given in Tables I, II and III of this report, the following information documents have been prepared and are available for consultation by the School Council of the Island of Montreal:

a) a map of the Island of Montreal, with the central area of the Island enlarged, showing the priority areas of intervention, that is, the 65 census districts which constitute or include a disadvantaged area;

b) 10 maps of the Island of Montreal, with the central area enlarged, entitled as follows:

Map No.1: Number of families with one or more children under 18 years of age and with a total 1970 income of less than $5,000.

Map No.2: Number of families with one or more children under 18 years of age and with a total 1970 income of less than $5,000, as a percentage of the total number of families with one or more children under 18 years of age.

Map No.3: Percentage of families with one or more children under 18 years of age and with a total 1970 income of less than $5,000, weighted by the actual number of families with one or more children under 18 years of age and with a total 1970 income of less than $5,000 (i.e. a combination of the data in Maps 1 and 2).

Map No.4: Number of women with one or more children under 18 years of age and with seven years schooling or less in June 1971.

Map No.5: Number of women with one or more children under 18 years of age and with seven years schooling or less in June 1971, as a percentage of the total number of women with one or more children under 18 years of age.

Map No.6: Percentage of women with one or more children under 18 years of age and with seven years schooling or less in June 1971 weighted by the actual number of women with one or more children under 18 years of age and with seven years schooling or less in June 1971 (i.e. a combination of the data in Maps 4 and 5).

Map No.7: Number of persons between 15 and 18 years of age who did not attend school full-time in 1970-71, as a percentage of the total number of persons between 15 and 18 years of age.

Map No.8: Number of men with one or more children under 18 years of age and who were unemployed in June 1971, as a percentage of the total number of men with one or more children under 18 years of age.

Map No.9: Number of men with one or more children and employed as manual workers in June 1971, as a percentage of the total number of men with one or more children under 18 years of age and who were employed.

Map No.10: Number of single-parent families as a percentage of the total number of families with one or more children under 18 years of age in June 1971.

c) A list, for each school board on the Island of Montreal, of the census districts within its territory, arranged in increasing order according to their Global Index value.

d) for each of the priority areas of intervention, i.e. for each of the 65 census districts forming or including a disadvantaged environment:

i) the total population;

ii) the total number of persons professing to be Roman Catholic;

iii) the total number of persons whose functional language is French;

iv) the total number of immigrants (as previously defined);

v) the total number of migrants (as previously defined);

e) a manual giving, for each of the 416 census districts, the value established for each district for the sixty variables used in this study.

f) a bibliography on the school and disadvantaged environments compiled by E.R.I.C. (Educational Resources Information Center of the National Institute of Education, U.S.A.). In addition to giving authors and titles, this bibliography gives a bried resumé of the subject dealt with. It is available as a data print out.

TECHNICAL APPENDIX

The purpose of this appendix is to explain in detail, the technique used to identify priority areas of intervention on the Island of Montreal.

1. The primary objective was to produce a Global Index showing the relative degree to which each of the census districts of the Island of Montreal is "disadvantaged".

It was, essentially, a matter of identifying the most disadvantaged districts of the Island of Montreal by means of, not one, but a number of socio-economic and cultural factors such as, income level, level of schooling, type of occupation, housing conditions as well as certain environmental factors. It involved, specifically, making up an index, called the Global Index, whose numerical value would measure the relative degree of socio-economic and cultural "disadvantage" in each of the 416 census districts of the Island of Montreal, according to the degree of concentration in each of them, of families, individuals or lodgings having one or more socio-economically or culturally negative characteristics.

The meaning of certain words in the preceding paragraph should be briefly explained here. The "relative" degree of disadvantage in a district means the degree of disadvantage in this district compared to the other districts of the Island of Montreal. In other words, a comparison was made between the conditions in different districts, based on the principle that even if the situation in all the districts varies considerably, there are necessarily a certain number of them which may be considered to be "disadvantaged" in relation to the others. Families, individuals or lodgings with "negative" characteristics are those which, because of these characteristics, may be regarded as disadvantaged compared to all the other families, individuals or lodgings. The "degree of concentration" in each district, of families, individuals or lodgings which have negative characteristics means the numerical importance of this concentration compared to the total number of families, individuals or lodgings in the district; this "degree of concentration" is numerically represented by a percentage.

2. "Indicators" of a disadvantaged environment.

The primary objective, which was to identify the most disadvantaged districts of the Island of Montreal by means of a certain number of indicators of disadvantaged environments, can now be redefined. An "indicator of a disadvantaged environment" is understood here to mean a variable whose value for a given district measures the relative degree to which this district is disadvantaged from the point of view of a negative characteristic shown by the families, the individuals or the lodgings, as the case may be, in this district. Seventeen variables were thus derived from available data, each of which was considered, from the beginning, to be a true "indicator" of a disadvantaged environment. It is now a question of explaining the reasoning behind the choice of each of the variables that have been derived.

i) economic or economico-cultural aspect (1)

a) income level

It is superfluous to stress the necessity of having a basic income not only to be able to subsist but also to be able to benefit fully from the numerous cultural resources available and essential to allow members of different social groups to develop their personal, family and community potential equitably. In addition to depriving a child, at birth, of his most basic human and social rights, that is, his right to be fed, clothed and decently housed, an inadequate family income places individual members of the most deprived groups in a culturally inferior and inadequate position from which to develop different emotional, social or intellectual capacities. From birth, the child is mortgaged to the future by reason of material conditions which are too inadequate to allow him to develop his capacities fully.

Two variables have been used to measure this factor. The first is expressed in this way:

1) The number of families with one or more children under 18 years of age and with a total 1970 income of less than $5,000, as a percentage of the total number of families with one or more children under 18 years of age.

As the aim of this study is to identify disadvantaged areas or districts with a view to future intervention programmes being initiated by the school, families with school-age children were chosen as a variable. This means then, that in terms of the income variable, this study is not concerned with all disadvantaged individuals but rather with disadvantaged families with school-age children.

To determine the most disadvantaged districts, in terms of concentrations of families with one or more children, on the basis of poverty, one of three income levels could be used; $ 3,000, $5,000, or $7,000. It was not possible to use a real "poverty threshold" because the data required to link a family's income to its size was not available. The best solution then was to use one threshold, particularly as the variable "large families", which was used for other reasons, served, to some extent, to take the size of families into account.

From the beginning the level of $7,000 was rejected as not including only poor families. Given, for example, variations in numbers of children, this income level might rate as poor, families with one child whose income was $7,000 in 1970 and these are not, strictly speaking, poor families because today this income would be equivalent to over $9,000.

The $3,000 level was rejected next because it was really too low, particularly when it was a question of a family with one or more children. The impertinence of this level as a gauge of poverty is obvious when one realizes that a family with two children and an income of $4,000 in 1970 would not have been considered poor.

It was, then, the level of $5,000 which was used to measure the economic poverty of families with one or more children under 18 years of age.

The second variable which was used to measure income level was designed to take into account the heterogeneity of the census districts as it relates to incomes. It is worded as follows:

2) the number of families with one or more children under 18 years of age and with a total 1970 income of $10,000 or more, as a percentage of the total number of families with one or more children under 18 years of age.

Some districts may be found to have the same proportion of low-income families but, by contrast, have a different proportion of higher-income families and it follows that those districts with a smaller proportion of higher-income families should have priority in terms of intervention programmes. A district with a significant proportion of higher-income families could be expected to have a certain number of socio-educational facilities such as, libraries, green spaces, playgrounds, cultural centres and so on, from which children of low-income families can also benefit. Higher-income families are also in a position to give their children the advantage of such educational assets as books, educational toys and sporting equipment which can, to a certain extent, help their friends whose parents are less privileged.

It is obvious that this phenomenon would only have a really meaningful influence if there was a significantly large number of high-income families in the area. If in two districts, 50% of the families are poor and if 10% of the families in one, and 40% of the families in the other, have a fairly high income, it would seem logical that the district with only 10% of its families having a fairly high income ought to be considered more disadvantaged than the other. It should not be thought, however, that the variables "proportion of families with a fairly high income" and "proportion of low-income families" have the same value in the Global Index. The reasons why it was necessary to use this variable and the method used to calculate its diminished value will be explained in the next section.

b) the employment rate of fathers

The position held by the father in the labour market is also a determinant factor with regard to the family's economic situation. Thus, if the father is unemployed, either because he cannot find a job (or he does not think there is a job for him) or because he is an invalid, it is obvious that he cannot provide suitably for his children's needs. It seems important to underline the negative psychological conditions, both individual and family, which can prevail in a home as a result of the feelings of uselessness and inadequacy engendered in the father if he internalizes the image that others have of him because he is unemployed. The head of the family, in such a situation, has few personal resources to help him surmount his difficulties in the immediate future and this can lead to an individual or family breakdown and such conditions as broken homes, alcoholism, mental illness and mental retardation; the father is unable to cope if the political and social institutions do not support him economically, socially and morally, which it is clearly their responsibility to do, in the majority of such cases in view of the working relations and conditions which presently prevail in our society. It is easy to imagine the impact such states of family tension and instability have on the emotional, intellectual and moral development of children and on their capacity to maintain a sustained interest in their school work when they are confronted daily with family conflicts and concerns. The following variable is used to measure this phenomenon in each district.

> the number of men with one or more children under 18 years of age and who were unemployed* in June 1971, as a percentage of the total number of fathers of families.

Since unemployment occurs much more frequently in disadvantaged areas, it will be readily understood that this variable identifies disadvantaged areas in another way. Those who are unemployed often become poor and are forced to live in districts where the housing costs are lowest and such districts are very often disadvantaged areas.

c) type of occupation of fathers

It is very clear that even if the head of the family works, the type of occupation he has will affect, not only the economic stability, but also the cultural orientation of his family and children. The degree of autonomy involved in a father's job(2) in terms of the strictness of supervision on the job, the restrictions and the organizational complexity of the job, is known to have an important influence on the attitude to education in the home, the type of authority exercised there and the orientation of the parents' values. The children whose fathers exercise very little self-determination in their job, are much more socialized in the sense of conforming to outside norms, while the children whose fathers have a job which involves a greater degree of self-determination, are more aware of the force of instilled social and cultural norms and their own individuality. The conflict of values and the pychological dichotomy which can exist between the school and the home can be seen, with the school encouraging autonomy and self-control in its students more than conformity and obedience. The child whose father has a job which involves little autonomy, manual work for instance, seems to be socialized to values which are different from those of children higher on the social scale and he is less well prepared for the school whose teaching methods and curriculum ignore the daily family contest in which he is socialized, while closely relating to the living and learning habits of middle-class children. The psycho-cultural and socio-cultural dichotomy is thus greater for the children of manual workers and the further the children progress in their studies, the more the gulf widens between these social groups and the school.

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* This refers equally to fathers who were looking for a job, those who were invalids and those who, while not ill, were not looking for employment.

The school requires the most deprived child to adapt himself more than other children by offering him norms and values for which he is unprepared and by promoting experiences poorly adapted to the individual and collective reality of these children.

The following two variables were used to measure this factor:

1) the number of men with one or more children under 18 years of age and employed as manual workers in June 1971, as a percentage of the total number of fathers.

The category of manual workers in the one which, from data available at this time, will give the best measure of occupations that allow the least opportunity for self-determination in the accomplishment of tasks. A study by the Montreal Council of Social Agencies(3) shows, for example, that disadvantaged areas appear to have a much larger proportion of manual workers. In other respects, the use of a variable like:

2) the number of men with one or more children under 18 years of age and with an administrative, professional or technical occupation in June 1971, as a percentage of the total number of fathers.

follows the same reasoning used earlier for the variable "proportion of families with a fairly high income". The lack of homogeneity of the census districts can result in two districts having the same proportion of manual workers while they have different proportions of administrators, professionals or technicians. Priority should go to the district with the lowest proportion of administrators, professionals or technicians, if the proportion of manual workers is the same in each. The presence, in a district, of a fairly high proportion of families with fathers whose jobs allow them to transmit values similar to those conveyed by the school and which consequently do not produce contradictions prejudicial to the children, will have a certain "compensatory effect" on the disadvantaged children through a sharing of collective cultural facilities as well as through cultural exchange or various forms of social or cultural organization in the community. The reasons why it was necessary to use this variable and the method used to include it in the Global Index are explained in the next section.

d) the income level of other families

This factor is place with those that define the economic-cultural condition of the districts, thus enabling it to show the large number of deterrents to the full development of children that exist in disadvantaged environments. The variable used to measure this factor is:

> The number of families without children under 18 years of age whose total 1970 income was less than $3,000 per year, as a percentage of the total number of families without children under 18 years of age.

It is important to know, in each district, the economic context in which the school-age children live. A district in which the proportion of childless families whose income was less than $3,000 in 1970,is higher than that of another district, will have priority of intervention, all other factors being equal. As it was impossible to combine single people with childless families, the above variable was chosen as an indicator of the socio-economic environment in which families with children live. It is obvious that few people would choose to live in a disadvantaged area, and that often it is the very low income available to childless families that obliges them to live where lodgings are cheap and consequently very run down, lacking any comfort or convenience or situated in surrounding districts that are very unattractive.

It is in this sense then, that this variable informs us about the socio-economic environment of the district and the unfortunate effects it has on the children who live there.

e) the proportion of lodgers

In the same context of the child's socialization which is linked to economic-cultural factors, it seemed important to compare the cultural model of the nuclear family of father, mother and one or more children that exist in our society and in which it is pretended that the children are socialized, to the reality experienced by all the real families. It is known that some families are unable "to make ends meet" with the basic income at their disposal and one of the answers is to make up the deficit sometimes by doubling up the children and renting one or two rooms. This has its repercussions on the family organization, the socialization of the children (e.g. contradictory adult models, traumatic or too premature experiences, adult conflicts, individual talks between parents and children, more or less responsibility for the children, reduction of parent-child contacts...) and also on the emotional, moral and intellectual stability of the home. The mother must often devote more time to people other than her husband and children and this affects, in different ways, the type of contacts and the kind of communication the children receive and the way they are brought up.

The variable that was derived to take this factor into account is the following:

> the number of lodgings with one or more lodgers
> in June 1971, as a percentage of the total
> number of lodgings.

This variable does not apply exclusively to lodgings where there are families with school-age children and thus takes into account another aspect of the community context in which the child lives. It is known that an area with a large number of lodgers is likely to have some of the same characteristics as an area where a high percentage of people live alone and isolated from the community and neighbourhood, that is to say, various forms of social ills such as, criminality, theft, prostitution, drugs, murders, suicides or mental illnesses.(4) In such a context, the child is confronted by situations that are sometimes traumatic or determinant for his age and liable to influence his emotional and moral development for the rest of his life.

It is obvious that families with lodgers are usually found in the most economically deprived areas because it is often insufficient income which forces families and individuals to take in lodgers.

ii) Cultural aspect

a) the level of parents' scholarity

If the kind of occupation the father has influences the socialization and the orientation of values in the home from a socio-economic standpoint, it is also essential to find out whether the intellectual flexibility of the parents (5), correlated with their scholarity, can reduce the influence of the father's job. The mother's scholarity in particular, can be influential in the sense that she can instill values in her children that are more closely related to those of the school: imagination, curiosity, self-control and the internalization of values, in contrast to obedience, cleanliness and conformity which tend to be the values of mothers who have had little formal education. This close relationship between school values, the scholarity of the parents (particularly of the mother)(6) and the socialization of the children in the home, should be closely examined (7) if the school is not to become an instrument of discrimination and social rejection for children from poor environments; a situation which occurs too often through ignorance of the child's family situation and through the assumption of so-called neutrality in the programmes, teaching methods, curricula and school experiences offered to poor children. Incidentally, there are many teachers (8) who ignore, or do not understand, the hard realities faced by children from disadvantaged environments.

As there is a high correlation* between the scholarity of a mother and father, it was decided to use only the level of the mother's scholarity to represent the scholarity of parents. Recent research (9) on scholastic retardation and the scholarity of parents shows that there is a correlation between these two factors and that this correlation is greater when the mother's scholarity is used. The variable selected is, then, the following:

> the number of women with one or more children under 18 years of age and with 7 years of schooling or less in June 1971, as a percentage of the total numbers of mothers.

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* This does not mean that the mothers and fathers in the districts have the same level of scholarity; it means, rather, that the proportion of mothers with 7 years of schooling and the proportion of fathers with 7 years of schooling in the districts, are almost identical. However, it would be possible for all the fathers to have a seventh year while all the mothers have only a fourth year, or vice-versa.

Why was 7 years of schooling or less chosen as the threshold of low scholarity? In 1971 there were still a large number of parents with only 7 years of schooling. If the ninth year had been taken as the threshold, for example, the number of parents at this level would have been so large that it would not have been appropriate for the purpose of identifying disadvantaged areas. It might be thought that this threshold is arbitrary; nevertheless if the seventh year, or primary level, hasn't much value today, it should be remembered that 15 or 20 years ago, certain classes of society regarded seventh year as being enough to allow them to earn a good living. Statistics show that this still pertains to a very large number of parents on the Island of Montreal.

The second variable used to measure the level of parents' scholarity falls in the same category, and is treated in the same way, as the variables "proportion of families with a fairly high income" and "proportion of superior occupations". In short, it is a variable "proportion of mothers with superior scholarity" measured by the following variable:

> the number of women with one or more children under 18 years of age and with 12 years of schooling or more in June 1971, as a percentage of the total number of mothers.

Thus, in the case of districts with the same proportion of mothers with 7 years of schooling or less, the district with the lowest proportion of mothers with 12 years of schooling or more would have priority of intervention. As was the case with the variables of income and occupation, the presence of a significant proportion of well-educated parents can also mean the presence of socio-cultural facilities and the influence of superior upbringing on all the children in the district as regards their potential for participating in a wider cultural context and even in the school system. The reasons why it was necessary to use this variable and the method used to include it in the Global Index are explained in the next section.

b) the scholarity of children

Education should ensure, individually and collectively, the acquisition of the tools required to enable poor children to break out of their state of poverty and not perpetuate the inequalities that are passed from one generation to another. The Senate Report on Poverty in Canada(10) found that school attendance beyond a certain age is an excellent indicator of the real reduction of these inequalities between social classes. School attendance beyond a certain age also indicates how well the school fulfills its function of democratization through programmes and personal and collective motivation and, at the same time, it shows to what extent the different social classes have at their disposal enough economic resources to enable their children to follow the secondary, collegial and university studies they wish to undertake.

Two variables were used to assess the situation regarding the education of young people. The first concerns non-attendance at school:

1) the number of persons between 15 and 18 years of age in June 1971 who did not attend school full-time during the 1970-71 school year, as a percentage of the total number of persons between 15 and 18 years of age.

While the law requires everyone 16 years of age or less, to attend school, it has been shown that in disadvantaged areas the number of people who do not attend school is relatively higher (11), mainly because of the need to work to bolster the family budget, lack of motivation, long illnesses and so on, as well as the tacit agreement of some parents.

The category of young people 17 to 18 years of age corresponds to the end of secondary school and the beginning of Cegep; that is, a level of study and an age when the large majority of young people still attend school. By choice or by obligation, with or without parental permission, young people who decide to leave school, enter the labour market with a certain handicap in their socio-economic-cultural development. The absence of framework and the lack of educational tradition in disadvantaged environments (12) leads us to believe that the highest rates of non-attendance at school will be found in disadvantaged districts. The following variable concerns another aspect of education, that of non-perseverance at school:

2) the number of persons 19 to 24 years of age in June 1971 who did not attend school full-time during the 1970-71 school year, as a percentage of the total number of persons 19 to 24 years of age.

Compared to the total number of young people 19 to 24 years of age, those who still attend college, and particularly university, at this age are a minority. Most of those who persevere to this level of study must have, from the beginning, enough economic resources at their disposal and not need to work to help their parents financially to bolster the family budget. The socio-cultural environment assimilated by young people is another very important factor in scholastic perseverance. For children in the privileged classes, perseverance in school is normal, encouraged by the importance of the peer group, parental attention, intellectual curiosity stimulated by books, movies, theatre and so on. In other words,the privileged classes are implicitly motivated to continue their studies while the underprivileged classes must motivate themselves. Consequantly it is possible to make the assumption that the largest proportions of young people 19 to 24 years of age and not attending school will be concentrated in disadvantaged areas.

c) large families

It is obvious that the number of children in a family is a determinant element as far as perseverance at school is concerned, the number of family dependents increasing with the number of children to be educated. A large family (13) entails routines and educational practices in the home that influence, in a particular way, the emotional and mental development of the child, especially his level of intelligence, degree of autonomy, personalization and individualization of needs, stress and mental health. The large family can promote through its family customs, closer relations and expression in and by the group rather than individualization, and this can be a positive factor. On the other hand, the large family often prevents children from receiving individual attention from their parents. This variable was chosen, not only because it shows some of the possible negative effects that a large number of children in the home can have on the level of the child's education, but also because it constitutes, to a certain extent, an adjustment to the income and overcrowding variables.

The following variable, in fact, compensates, at least partially, for the fact that the low-income threshold was established at $5,000, without taking family dependents into consideration.

> the number of families with five children or more in June 1971, as a percentage of the total number of families with one or more children.

This variable partially compensates for the deficiency of the variable used to measure overcrowding, as a family with 5 children in Montreal could be expected to have overcrowding problems, i.e. be crowded in their home.

d) single-parent families

The physical, psychological or, physical and psychological, absence of one or both parents can reduce both the number of psychological contacts between parents and children and the amount of supervision the children receive. This can have an impact on the child's learning difficulties in language and mathematics or on the behavioural problems he develops when he is unable to adapt himself to the demands of the school.

The presence of two parents in the home is a basic cultural factor in the psychological development of the child in our society. The absence of one of the parents (14) can have an economic, cultural and psychological effect that is prejudicial to both the present and the future of the child. The psychological absence of one parent cannot be measured but physical absence can be taken into consideration (single-parent families).

At this level the most materially and psychologically deprived parents are more likely to abandon their responsibilities completely, faced as they are with few available economic, cultural and legal alternatives to help them maintain a certain stability in the home. One can then expect to find proportionally more family instability, illicit relationships, open promiscuity (15) and parents abandoning their home and children, in the most materially and psycho-socially deprived environments.

The following variable is used to measure this factor:

> the number of single-parent families in June 1971, as a percentage of the total number of families with one or more children.

This variable is all the more accurate in identifying disadvantaged areas because in four out of five cases, it is a woman who is the head of a single-parent family*. In the majority of cases, these mothers must either receive social assistance or else they receive a very low wage which will be further reduced by the cost of maintaining children and they consequently have little choice but to live in clearly disadvantaged districts.

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* This information is taken from an analysis of 1971 census data made in the framework of this study.

iii) Ecological aspect (condition of the environment)(16)

a) condition of lodgings

The following indicator of the state of deterioration of lodgings and of their physical hygienic condition was used:

1) the number of lodgings without a bath or shower in June 1971, as a percentage of the total number of lodgings.

This variable has always proved to be a good indicator of the state of deterioration of lodgings, particularly family lodgings. The negative effects of an insanitary lodging are obvious. A bath or shower in the home encourages the habits of cleanliness and hygiene that the school values so highly. The child develops a negative self-image when the school seeks to impose particular cleanliness habits on him by the use of unkind remarks or by training him to develop standards of cleanliness without giving any thought to the sanitary facilities or material resources in the child's home. This variable is somewhat inadequate as it concerns all lodgings, when it would have been preferable to have counted only those lodgings occupied by families with children up to 17 years of age. This deficiency will be taken into account when the Global Index is made up, as will be seen in the following section.

Another variable was made up to show the condition of lodgings:

2) average number of persons per room for all the lodgings in the district.

This variable measures the degree of overcrowing in lodgings more accurately. (17) It is known that the school encourages the child to achieve both physical and psychological self-control by giving him daily individual assignments to do on his own in class, without always taking sufficiently into account the consequences of overcrowded conditions in the child's home, such as lack of intellectual and emotional antonomy, restlessness or intellectual and motor retardation. Teachers seldom make constructive use of the child's need to work in a group, to be with others and to communicate with gestures rather than words. Overcrowding, or lack of vital living space, in lodgings appears to have a direct impact on the intellectual and emotional development of individuals, in that it encourages social and cultural ways of living and learning very different from those offered by the school.

Lack of pertinent data results in this variable measuring the degree of overcrowding in lodgings occupied exclusively by adults, as well as those occupied by families with children, which is the concern here, and this tends to distort the measure of this phenomenon. Other problems arise concerning the choice of this variable and they will be explained in detail in the next section.

b) the problems of adapting to an environment

The adjustment problems experienced by rural migrant Canadians (18) arriving in Montreal are known. They come to the city to find a job but are often poorly educated, unskilled and completely unprepared for urban life, and often find themselves in an economic situation which, on the whole, is fairly precarious, with some fathers finding themselves unemployed. The parents often continue to live according to the values of their birthplace, particularly when they were forced to move, and they teach their children the same lifestyle and conduct. They often feel isolated and unequal to the demands of the city and try to stay close to relatives and friends who arrived before them.

The children live in an unstable atmosphere and a contradictory cultural world between home and school. They alienate themselves, with their parents, (absenteeism) by maintaining a country-oriented lifestyle or they keep up habits of school absenteeism developed in the country. Sometimes they have difficulty understanding other children or their odd language makes them become objects of ridicule to their peers. The school adapts itself very little to these children and consequently a number of them are found to be maladjusted, according to school standards, because of language difficulties and marginal behaviour. (19) A social heredity develops between children and parents, where the school could play a decisive role, by reducing the psychological and cultural dichotomy that these children experience between the school and the family, and thus enabling these children to become better equipped than their parents for the future.

A recent study (20) has shown that half the rural migrant families in Montreal live in a state of poverty and therefore it can be assumed that they are concentrated in certain disadvantaged districts. The following variable was derived to test this assumption:

1) the number of persons coming from non-metropolitan regions in Quebec or from another Canadian province who, in June 1971, had been five years or less in the Montreal area, as a percentage of the total population.

Another indicator underlining the problems of adaptation to environment, the immigration factor, was retained and measured by the following variable:

2) the number of immigrants who arrived in Canada during the five years before June 1971, as a percentage of the total population.

Contrary to what might be expected, immigrants succeed in adapting themselves more rapidly and more easily to the labour market. Before they come, immigrants, unlike rural migrants, must pass through a selection procedure and everything would indicate that after certain arduous and demanding experiences, they usually find themselves in a more stable position on the labour market than rural Canadian migrants. (21) In other ways however, these families have many problems adjusting to a different social and cultural reality.

If it is agreed that the children of immigrant families have problems adapting to school, is it possible to make the assumption that these families are concentrated in certain disadvantaged districts? As their economic situation seems to be a minor problem, it might be thought that immigrant families would live in different districts in Montreal but there are indications that some groups of immigrants prefer to stay in poorly equipped, and therefore cheaper, lodgings for a certain time to increase their relative economic stability, ready to move elsewhere after a few years when they are financially more secure. It should not, moreover, be forgotten that a significant proportion of immigrants find themselves in such a position on the labour market that it would be reasonable to assume that the census districts, in which the immigrant population makes up a fairly high proportion of the total population, are disadvantaged. As there were as many indications to support this variable as an indicator of disadvantaged environments as there were to reject it, it was decided to retain it until the correlation test was made with all the variables considered to be true indicators of disadvantaged areas.

Within the limitations imposed by the availability of pertinent data, 17 variables were derived, using theoretical study, information from scientific literature on the subject as well as experience gained by the authors in this type of work. It is obvious that the simple fact that these variables were drawn up shows that they were considered, in theory and only in theory at first, to be potential "indicators" of disadvantaged environments. It was then necessary to find out whether, effectively, each of these variables could be proved to be a true indicator of a disadvantaged environment. Before going any further, it is advisable to list, coding them for reasons which will be justified later, each of these variables or potential indicators. For each of the 416 census districts on the Island of Montreal there is then:

Variable A: the percentage of families with school-age children whose total income is less than $5,000 per year;

Variable B: the percentage of families with school-age children whose total income is over $10,000 per year;

Variable C: the percentage of families without school-age children whose total income is less than $3,000 per year;

Variable D: the percentage of lodgings without a bath or shower;

Variable E: the percentage of families with 5 or more children;

Variable F; the percentage of single parent families (i.e. with one parent and children);

Variable G: the percentage of young people between 15 and 18 years of age who no longer attend school;

Variable H: the percentage of mothers with 7 years of schooling or less;

Variable I: the percentage of mothers with 12 years of schooling or less;

Variable J: the percentage of fathers who are unemployed (i.e. who are looking, or not looking, for a job or who are invalids);

Variable K: the percentage of lodgings with one or more lodgers;

Variable L: the percentage of fathers who have a "blue collar" job (i.e. manual workers);

Variable M: the percentage of fathers with an administrative, professional or technical occupation;

Variable N: the percentage of young people between 19 and 24 years of age who do not attend school full-time;

Variable O: the percentage of immigrants (i.e. people who have arrived in Canada within the last five years) in the total population;

Variable P: the percentage of migrants (i.e. people from a rural or slightly urbanized regions in Quebec or Canada who have arrived in Montreal within the last five years) in the total population;

Variable Q: the average number of persons per room for all the lodgings in the district.

A number of comments should be made here. The first concerns Variables B, I and M. It might at first seem odd that these should be considered as potential indicators of disadvantaged environments but the explanation is simple. They are, in fact, negative indicators of disadvantaged areas: for example, the higher the percentage of families, in a district, whose total income is over $10,000 (variable B), the less disadvantaged this district can be considered to be. Next, and this is much more important to remember, the very nature of variables A,H and L made it necessary to have variables B, I and M for a good reason which a numerical example will help to explain. Let us imagine two districts I and II in which the distribution, by percentage, of families with school-age children, according to their total income level, is the following:

Income bracket	District I	District II
Less than $5,000	50%	50%
$5,000 to $9,999	25%	49%
$10,000 and over	25%	1%

Since 50% of the families in each district have a total income of less than $5,000, can these two districts be considered to be disadvantaged to exactly the same degree from the standpoint of family income? Probably not, as 25% of the families in district I have an income over $10,000, compared to 1% in district II so, in fact, we can truly say that district I is a little less disadvantaged than district II. Thus it seemed as important to include variable B as Variable A. The same thinking applies to variables H and L: a district with a large proportion of mothers with seven years of schooling or less, can have a fairly large proportion of mothers with 12 or more years of schooling; just as a district with a large proportion of fathers who are manual workers, can also have a fairly large proportion of fathers who are administrators, professionals or technicians. For the same reasons then, it was quite as necessary to include variables I and M as variables H and L.

The problem, then, is the pronounced lack of homogeneity, from a socio-economic and socio-cultural point of view, of a not inconsiderable proportion of census districts on the Island of Montreal. While we normally find fairly few clearly advantaged families in districts where there is a large proportion of clearly disadvantaged families, it is possible, in some districts, to find a fairly large proportion of advantaged families and a large proportion of disadvantaged families. It is obvious that this had to be taken into account.

It might be wondered why, in these circumstances, variables A, H and L were not made up in the form of arithmetical averages rather than proportions. At first it might seem that the arithmetical average; for example, the average total income of the families in the district, the average level of scholarity of mothers in the district and the numerical index of the "average occupation" of fathers in the district, would have taken into account the lack of homogeneity of the districts. The use of arithmetical averages, however, would distort, in the opposite way, the real degree of disadvantage found in families in a very large number of districts. The following fact proves this: The simple correlation coefficient, for the 416 census districts on the Island of Montreal, between the proportion of families in the district with an income less than $5,000 and the average income of all the families* in the district is only - .63 which is relatively weak. This indicates that in a fairly large number of districts, the average family income is quite high while the proportion of low-income families is also fairly large and that, inversely, there are several districts where the average family income is quite low, even though the proportion of low-income families is quite small. Now, if it is agreed that it is the proportion of low-income families which is the best and most accurate, while not perfect, measure of the real degree of disadvantage, from the point of view of income, found in families in the district, it must be concluded that the arithmetical average would have proved to be a rather inefficient measure of the real degree of disadvantage*. The method chosen, while not perfect, seemed to be the best solution in the circumstances.**

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* It is obviously a question of families with school-age children.

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* It should be remarked that the use of the median, rather than the arithmetical average, even if it had proved to be more effective than the arithmetical average, would not have really been adequate, as the preceding example clearly demonstrates.

** It may be wondered why, in the case of variable C which is of the same nature as variables A, H and L, there is no corresponding variable like B, I and M. The explanation is that nearly all the districts which lack homogeneity in relation to A and B, are those which also lack homogeneity in relation to the proportion of childless families with an income under $3,000 and the proportion of childless families with an income over $7,000. As C is also an income variable and the lack of homogeneity of districts from an income standpoint is taken into consideration by B, it seemed to be superfluous to include another income variable, particularly as this would have given too much weight to the factor of 'income' in the Global Index as there are already three income variables A, B and C.

The second comment on the subject of variables derived as potential indicators of disadvantaged environments, concerns variable Q. This one, unlike the others, is in the form of an arithmetical average for the following reason: if a proportion variable had been used to measure the degree of overcrowding in lodgings, it would have been necessary to make up a variable: the proportion, in each district, of lodgings with more than one person per room, which is the current definition of overcrowding. There was no available data concerning the number of persons and the number of rooms for only those families with children under 18 years of age and therefore data on the total population in the districts had to be used. This presented a problem in that it is not unusual to find lodgings with more than one person 18 years of age or over per room as, for instance, couples living in one-room batchelor apartments. As it is fairly certain that the relative importance of lodgings overcrowded exclusively by people 18 years of age or over, is far from being the same from one district to the other, it is very likely that the use of a proportion-variable would have given a false picture of the real degree of overcrowding in lodgings in several districts.

There is yet another problem regarding the use of a proportion-variable to measure overcrowding in lodgings and that is the question of single-parent families. The existence even, of single-parent families raises doubts as to the real value of the ratio which defines overcrowding: i.e. more than one person per room in a lodging. The implication is that, even if the pertinent data was available concerning families with children over 18 years of age,the real value of the proportion variable that could have been derived, would still have been questionable. An example will illustrate the problem. A four room lodging occupied by four people is not overcrowded according to the current definition of the concept of overcrowding, as, in this case, there is one person per room. With two adults and two children in a lodging that would normally have two bedrooms, a living room and a kitchen, there is no problem, but a similar lodging, with one adult and three children, would have to be considered to be overcrowded in spite of the definition ratio. In a large number of districts, particularly disadvantaged ones, the relative importance of single-parent families is far from being negligible.* The true picture of overcrowding risks being distorted, therefore, by the use of a proportion-variable.

For all these reasons, the arithmetical average (for the district) of the number of persons per room in lodgings was chosen as the best measure of the degree of overcrowding, particularly as, in the case of income,the average-variable and the proportion-variable often show considerable discrepancies when related to the same factor. This would indicate that, the average number of persons per room, is perhaps less influenced, than the proportion of lodgings with more than one person per room, by factors that distort the truth, such as overcrowding caused exclusively by people 18 years of age or more, or the existence of a large number of single-parent families. This is quite logical because, in this case, the average-variable encompasses all the lodgings in the district whereas the proportion-variable only applies to lodgings with certin characteristics, such as "more than one person per room".

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* In some districts 25% of all the families are single-parent families.

Furthermore, the average number of persons per room for all the lodgings in each district is perhaps not as ineffective, as might have been thought at first, as an indicator of the degree of overcrowding in lodgings occupied by families with children under 18 years of age, and certain simple correlation calculations support this impression. The simple correlation coefficient for the 416 districts on the Island of Montreal, between the average number of persons per room and the proportion of the total population of children under 15 years of age is .60 which shows that, even without the size of lodgings being taken into account, the presence above of a large number of children under 15 years of age, in relation to the total population, tends to increase the number of persons per room in the district. This conclusion shows that this last variable is certainly not completely ineffective. In the same way, the simple correlation coefficient between the average number of persons per room and the proportion of heads of families, 55 years of age or over (families for the most part, without children), is - .58, which implies that, not withstanding the size of the lodgings in a district,the presence alone of a large number of heads of families, 55 years of age or over, in relation to the total number of families, tends to diminish the average number of persons per room in the district. However it should not be thought that the average number of persons per room for all the lodgings in each district is the "ideal" measure of the degree of overcrowding in lodgings occupied by families with school-age children, because this measure is itself influenced, but probably to a minimal degree, by the factors of distortion mentioned earlier. This measure appeared to be the best in the circumstances, given the lack of pertinent data.*

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* Another measure currently used, is the average number of persons per bedroom. Theoretically, this measure is preferable to the one chosen, but, in practice, without data on the number of persons and the number of rooms for only those lodgings occupied by families with school-age children and taking the problem of single parent families into account, this measure has no significant advantage over the other.

The variable that would most effectively measure this phenomenon would be the following: the average number of persons per bedroom in lodgings occupied by families with one or more children under 18 years of age, adjusted to take into account the relative importance of single-parent families. Unfortunately the data needed to make up this variable was not available.

Another comment in the same vein, concerns variable D, the proportion of lodgings without a bath or shower. This variable should have been made up to take into account only those lodgings occupied by families with school-age children, as those occupied exclusively by adults are not of concern here, but due to lack of pertinent data, variable D had to be made up to measure all the lodgings in each district. This means that the true picture, i.e. the absence of bath or shower in lodgings occupied by families with children under 18 years of age, will be biased, to a certain extent, as a result of using variable D. For example, there could be, in a district, a fairly large proportion of lodgings without a bath or shower, mainly because this district has a fairly large number of people living alone in tiny lodgings without bath or shower.*

This, in actual fact, seems to be the case. The simple correlation coefficient, for the 416 districts on the Island of Montreal, between the proportion of lodgings with a bath or shower and the proportion of lodgings occupied by one person is .52, which is quite significant since variable D is a measure that appears to have a fairly serious bias. This had to be considered when the time came to use it.

The last comment on 'potential' indicators concerns variables H and I. It will have been noticed that these measure mother's scholarity but that there is no variable to account for fathers' scholarity.

It is not a question of fathers' scholarity being unimportant, on the contrary, but simple correlation calculations show that variables H and I represent fathers' scholarity quite as much as mothers' scholarity. The simple correlation coefficient, for the 416 districts of the Island of Montreal, between the proportion of mothers with seven years of schooling or less and the proportion of fathers with seven years of schooling or less, is .96 and there is a simple correlation coefficient of .95 between the proportion of mothers and the proportion of fathers with 12 years of schooling or more. So it can be seen that the inclusion of the level of fathers' scholarity would add nothing, for all practical purposes, to the dimension. Furthermore, its inclusion would have artificially increased the weight of the parent scholarity factor in the global index. The conclusion reached, is that variables H and I represent parents' level of scholarity and not simply that of the mother.

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* Lodgings called "batchelor apartments", without bath or shower facilities, which are relatively cheap.

3. The selection of variables to be included in the Global Index

It has been shown that 17 variables were worked out as "potential" indicators of disadvantaged areas and assumed to be true indicators. It is now a question of verifying this premise at the level of each of the 17 variables. The process used to verify this premise was based on a simple idea: most of the 17 variables, but not necessarily all of them, are in fact, true indicators of disadvantaged environments because it is inconceivable that practical experience combined with theoretical study and relevant information available in scientific literature, could have resulted in variables being derived that were not, for the most part, true indicators of disadvantaged areas. Given that most of the 17 variables are, in fact, true indicators, it is possible to isolate any that might not be valid. The basic element in the method used for this purpose was the simple correlation coefficient between each of the 17 variables and each of the 16 other variables. A variable would not be considered to be valid unless the simple correlation coefficient between it and each of the other 16 variables is at least .50, whether the correlation be positive or negative.* This quantitative criterion is based on the logical premise that if a variable really is a true indicator of disadvantaged areas, its correlation with another variable which is itself a true indicator, could not be weak.

More specifically, the selection procedure worked in the following way: from a triangular matrix containing all the simple correlation coefficients between the 17 variables, some variables were removed, starting with those that showed the weakest correlation coefficients, until the matrix contained only those whose correlation coefficient value is equal to, or more than, .50. The matrix that was obtained by this process of elimination is shown in Table IV. It can be seen that it does not include variables N,O,P and Q and consequently these cannot be considered to be true indicators of disadvantaged areas and Table V clearly shows why this is so. A comparison of Tables IV and V shows why variables N,O,P.and Q have been rejected.**

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* The essential point to remember here is that every simple correlation coefficient, whether positive or negative, that is less than .50, can be considered to be very low.

** A definition of the variables corresponding to the code letters can be found in the preceding section.

TABLE IV

MATRIX OF THE SIMPLE CORRELATION COEFFICIENTS BETWEEN THE VARIABLE-INDICATORS OF DISADVANTAGED AREAS.

VARIABLES	VARIABLES											
	B	C	D	E	F	G	H	I	J	K	L	M
A	-.78	.73	.70	.56	.79	.57	.73	-.52	.78	.75	.68	-.60
B		-.63	-.51	-.50	-.64	-.56	-.85	.81	-.74	-.59	-.89	.83
C			.57	.52	.62	.51	.65	-.51	.59	.57	.58	-.53
D				.51	.60	.51	.53	-.50	.62	.58	.51	-.50
E					.63	.54	.56	-.50	.63	.53	.51	-.50
F						.53	.60	-.51	.71	.63	.57	-.51
G							.65	-.58	.57	.51	.60	-.58
H								-.82	.75	.57	.90	-.84
I									-.60	-.50	-.86	.90
J										.64	.69	-.64
K											.51	-.50
L												-.93

TABLE V

SIMPLE CORRELATION COEFFICIENT BETWEEN EACH OF THE 4 REJECTED VARIABLES AND EACH OF THE 13 VARIABLES WHICH WERE RETAINED

	VARIABLES			
VARIABLES	N	O	P	Q
A	.21	-.04	.12	.31
B	-.51	.02	.03	-.65
C	.21	-.14	.08	.33
D	.12	-.04	-.07	.07
E	.28	-.03	-.34	.39
F	.22	.02	-.14	.29
G	.42	-.09	-.20	.43
H	.52	-.12	-.08	.68
I	-.69	.11	.34	-.75
J	.33	.03	-.19	.43
K	.05	.07	.05	.10
L	.58	-.02	-.09	.76
M	-.70	.04	.18	-.78

With regard to variable O (proportion of immigrants in the total population) and P (proportion of migrants in the total population), Table V shows conclusively that they are not indicators of disadvantaged areas. In the same way, though not as obviously, the same conclusion can be drawn concerning variables N (proportion of young persons between 19 and 24 years of age who do not attend school full-time) and Q (the average number of persons per room in lodgings). While some of the correlation coefficients relating to these variables are relatively strong, the majority of them are extremely weak. It is quite significant that the correlation between the variables N and Q and variable A (the proportion of families whose total income is less than $5,000) is very weak, as variable A has been found to be an excellent indicator of the degree of disadvantage in the districts. Thus it must be concluded that variables N and Q are not true poverty indicators.*

While it has been established that variables N and Q are not indicators of a disadvantaged environment, it will undoubtedly be interesting to ascertain that they can be considered to be indicators of an "advantaged" environment. This, in fact, is indicated by the level of the correlation coefficient between variable M (proportion of fathers with an administrative, professional or technical occupation) and variables N and Q: the simple correlation coefficient between M and N is -.70 and between M and Q, it is -.78. This shows that, in a given district, the larger the proportion of fathers with administrative, professional or technical occupations, the smaller, both the proportion of young persons between 19 and 24 years of age not attending school full-time and the average number of persons per room in lodgings, tends to be. There is no doubt that the larger the proportion, of fathers with administrative, professional or technical occupations in a district,the more "advantaged" this district will be from a socio-economic and socio-cultural stand point. In this sense, variables N and Q are indicators of advantaged environments.** It is approximately the same situation concerning the level of the correlation coefficients between variable I and variables N and Q and between variable B and variables N and Q.

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* In the case of N, it is interesting to note that, for all the 416 districts on the Island of Montreal, there is practically no correlation between the proportion of young persons between 19 and 24 years of age and those between 15 and 18 years of age, who do not attend school, the correlation coefficient between them being only .42.

** Here it is important to understand that an environment which is not "disadvantaged" is not necessarily "advantaged". These two kinds of environments are socio-economically and socio-culturally the two extremes of society. There is a whole range of environments from "more or less disadvantaged" to "more or less advantaged" between those that are clearly "disadvantaged," which are our concern in this study, and those that are clearly "advantaged."

A further comparison of Tables IV and V will explain the logic of the procedure which caused variables N,O,P and Q to be rejected. From the time it was known that most of the original 17 variables were true indicators of disadvantaged areas, it was obvious that any variables that were clearly different from most of the other variables, in that the level of several of their correlation coefficients was very weak, could not be considered to be good indicators. This is exactly what was found when a comparison was made of the level of the correlation coefficients between N,O,P and Q and that of the other 13 variables.

4. The "self-weighting" of variables B, I and M

It has already been explained that, due to the lack of socio-economic and socio-cultural homogeneity of a large number of census districts, the very nature of variables A,H and L required the presence of variables B, I and M. It was, then, necessary to find out whether these variables should be treated in exactly the same way as the other variables. An example will explain the problem: let us imagine a district where 33% of all the families have an income of less than $5,000, and 33% have an income of more than $10,000. This district would appear to be socio-economically and socio-culturally quite disadvantaged since one out of three families has an income of less than $5,000. If we apply the same reasoning to variable B, this district will no longer appear to be quite advantaged, which in fact it is, because the 33% of low income families "compensates" to some extent for the 33% of higher-income families and consequently, the picture given by the two variables together is "neutral," from the point of view of family income, i.e. neither disadvantaged nor advantaged. In other words, the presence of variable B "camouflages" the true situation depicted by variable A and it is this true situation that is of interest here. The same problem obtains in the case of I and M.

The Technique of "self-weighting" for variables B,I and M, as previously mentioned, was used to solve the problem. It is a question of weighting, by itself, the level of each of the variables B, I and M. Thus, in the preceding example, the level of variable B would no longer be 33% but rather, 33% multiplied by 33% which is 11%. In this way, the fact that the district has a fairly large number of families whose income is over $10,000, is taken into consideration and this is important, without, however, completely camouflaging the fact that one family in three has an income of less than $5,000. If the proportion of higher-income families was 50%, the level of variable B would be 25% (i.e. 50% multiplied by 50%) and if the proportion was 10%, the level of variable B would be 1% (i.e. 10% multiplied by 10%). It is, of course, the same in the case of variables I and M.

It can been seen that, with the weighting of variables B, I and M, the impact of the presence of families whose income is over $10,000, mothers with 12 years of schooling or more and fathers with an administrative, professional or technical occupation is not directly proportional to their relative importance in each district, in fact, the impact of their presence is almost insignificant as long as their relative importance in the district is not relatively great.*

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* In technical terms, the "self-weighting" gives an "exponential" type of variation to the level of variables B, I and M.

This is probably the best way to take into account the impact of variables B, I and M, which, by their very nature, could not have the same influence as the others in identifying disadvantaged areas and, as shown in the text of the study itself, this method of procedure seems to have been amply justified.

5. The problem of demographic inequality between census districts

The population in each of the 416 different census districts on the Island of Montreal is very far from being the same, some districts having a total population of 2,000 and others over 20,000. Consequently there are significant, and sometimes even considerable, differences between the total numbers of families, individuals and lodgings in each district and this causes a serious problem in a work of this kind.

The purpose here is to identify disadvantaged districts; by definition, those districts having a large proportion (high percentage) or high degree of concentration of families, individuals and lodgings having certain negative characteristics. The question that must be asked is: what does a percentage mean when, in some districts, the actual number of families, individuals and lodgings is ten times greater than in others? If the number of each of these had been exactly the same in each district, it would have been possible to use percentages exclusively to measure the degree of disadvantage in each. Unfortunately this is far from being the case.

A numerical example concerning the income factor, will define the problem. Let us take three census districts, I,II and III for which we have the following data:*

	DISTRICT I	DISTRICT II	DISTRICT III
Total number of families with children under 18 years of age.	2,000	200	200
Number of families with children under 18 years of age and whose income is less than $5,000.	400	100	40
Percentage of families whose income is less than $5,000(variable A)	20%	50%	20%

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* This is a purely fictitious example.

	DISTRICT I	DISTRICT II	DISTRICT III
Number of families in the district whose income is less than $5,000, as a percentage of the total number of families on the Island of Montreal whose income is less than $5,000.	1.0%	0.25%	0.1%
Variable A weighted (i.e. adjusted to take into account the actual number of families in the district whose income is less than $5,000.	.200%	.125%	.020%

Let us first consider district I and II. If variable A is used, district II is clearly very disadvantaged from the point of view of family incomes while district I is not, as it has only 20% low-income families, compared to 50% in district II. However this does not appear to be the case when actual numbers are considered. District II, with 100 low-income families, would then be considered clearly disadvantaged while District I, with 400 low-income families, would not be, for the simple reason that the total number of families in one is 10 times greater than the total number of families in the other. This rather fantastic conclusion leads us to question the accuracy of variable A as a measure of the degree of disadvantage in all the census districts, from the point of view of family income, given the often very pronounced demographic inequality between the different districts.

It can be presumed that most of the low-income families in a given district, live in old, dilapidated, and consequently cheap, lodgings which tend to be concentrated on a certain number of streets within the district. In district I it would be logical to expect to find at least a good proportion of the 400 low-income families concentrated in one, more or less, delimited part of the district and that this part could be considered a truly disadvantaged area, in terms of family income. In district I then, variable A by itself, cannot be considered to be an adequate measure of the real degree of disadvantage in this district because it did not identify district I as a disadvantaged area, which it obviously is. For exactly the same reasons, this serious problem arises with all the other 12 variables because they are all proportion-variables. The following solution was adopted to reduced to a minimum, the demographic inequality between districts: the level, in terms of percentage, of each variable for each census district has been weighted by the relative importance of each district in the sum total of all the districts on the Island of Montreal, from the point of view of the number of families, individuals or lodgings which show the negative characteristic represented by the variable. To understand more clearly, let us refer again to the example of districts I and II. In district I there are 400 low-income families representing 20% of all the families in the district and 1% of all the low-income families on the Island of Montreal.

The solution adopted consists of multiplying 20% by 1% which equals 0.200% (i.e. two tenths of 1%).* In district II there are 100 low-income families, representing 50% of the families in the district and 0.25% (i.e. a quarter of 1%) of all the low-income families on the Island of Montreal. In this case 50% is multiplied by 0.25% which equals 0.125% (i.e. 12.5 hundredths of 1%). In the case of variable A, the new measure obtained by this procedure is a combination of percentage and actual number of families whose income is less than $5,000 in each census district. It is exactly the same for each of the other variables: for example, in the case of variable H, it would be a combination of the percentage and the actual number of mothers with 7 years of schooling or less, in each census district. In other words, it is a question of a measure which takes into account the degree of concentration (i.e. proportion or percentage) and the actual number, and this is essential, given the demographic inequality between districts.

The preceding numerical example shows that the weighted variable A gives a much more accurate picture than it gave as a simple percentage: district I is shown as it really is, according to all probabilities, a district with a clearly disadvantaged area from the point of view of family income (like district II, but to a greater degree). This method of weighting, while it corrects much of the bias created by demographic inequality between districts, causes a problem in that it creates a new, though much less serious, bias. By comparing districts II and III it can be seen that the weighted variable A shows district III to be "advantaged" when in fact it is "neither disadvantaged nor advantaged" (as it has 20% low-income families). The level of the weighted variable A is only 0.020% for district III, while it is 0.125% for district II which is more than 6 times greater, compared to 20% against 50% for the unweighted variable A. However it is better that a district appear to be advantaged when it is in fact "neither disadvantaged nor advantaged" (i.e. district III as a result of the weighting of variable A) than that a district appear to be "neither disadvantaged nor advantaged", when it is in fact, clearly disadvantaged (i.e. district I with an unweighted variable A), because the objective is to identify disadvantaged areas. There is no perfect method of adjustment here to solve the problem of demographic inequality and the method used in this study seemed to be the best in the circumstances.

6. The standardization of different variables

The 13 retained variables, each of which is different, naturally do not have the same range of variation. While the level of certain variables can range from 10% to 100% or from 0% to 75%, the level of some of the others will only range from 1% to 10% or from 2% to 25%. These differences between the districts, in the range of their variation (expressed in terms of simple percentage), do not disappear with the weighting of variables by the method explained in the previous section. To understand the practical implications of this situation, we can take the case of two districts, one where 20% of the families have an income of $5,000 or less, and the other where 20% of the families are single-parent families.

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* It is important to undertand that this last percentage means nothing in itself; it only shows the level of the variable for one district in relation to that of each of the other districts.

The first district is not really disadvantaged with only 20% low-income families, while the second is clearly disadvantaged with one out of five families having one parent. If an evaluation is made exclusively on the level of the variables, the degree of disadvantage would appear to be exactly the same. It is then, impossible to identify clearly disadvantaged areas using the level itself of variables even when they are weighted.

The method used to circumvent the problem is based on the concept of "disadvantage." No absolute criteria exist for comparing the degree of disadvantage in different districts according to each of the variables. There are only relative criteria based on the idea that districts which are disadvantaged, are those which show a high level of a given variable (i.e. of a certain negative characteristic) when compared to all the other districts. This is why it was decided to subdivide the maximum range of variation of the weighted level of each variable into 50 divisions of equal value, or 50 "ranks", and to classify, for each variable, each of the 416 districts on the Island of Montreal according to the "rank" which corresponds to the value of the weighted level of the variable for each district. For all the variables, except B, I and M, the first ranks correspond to the highest values of the weighted level of the variable; i.e. the districts in the first ranks are the most disadvantaged. It is the opposite for B, I and M as these are the variables which indicate the degree of "advantage" in the district; in their case, the first ranks correspond to the lowest values of the weighted level of the variable; i.e. the districts in the first ranks are the least "advantaged".

In this way, a district classified in the 45th rank in relation to variable A, will not be disadvantaged from the point of view of family income whereas the district classified in the 5th rank in relation to variable F, will be clearly disadvantaged from the point of view of what might be called "composition of families." There is a simple explanation for the classification of districts, for each variable, according to a scale of 50 "ranks" instead of 25 or even 100 "ranks". It was thought that the use of too many ranks would show too great a difference between districts that are not very different according to the value of the weighted level of the same variable, while the use of too few ranks would have the effect of minimising the differences between districts that are quite different according to the value of the weighted level of the same variable. Such a classification, however, of districts, for each variable, in a certain number of ranks is necessarily somewhat arbitrary but the impact is minimal when this classification is not carried out in a purely problematical way.

7. The weight of each variable in the procedure used to identify disadvantaged areas

The last point that had to be taken into consideration, is related to the following question: what importance should each of the 13 retained variables have in the procedure used to identify disadvantaged areas? In other words, should some variables be relied on to identify disadvantaged areas more, or even much more, than others? In other studies similar to this one, the procedure has been fairly arbitrary: for example, the family income factor has been considered to to be much more important than the attendance at school by young people of a certain age factor which is itself considered to be much more important than the "composition of families" (i.e. single-parent families) factor and so on. This is tantamount to saying that, for example, a certain area is not disadvantaged because, even if it has a very large proportion of young people (15 to 18 years of age) who no longer attend school and a very large proportion of single-parent families, the proportion of families with an income of $5,000 or less, while not small, is not very large (i.e. the income factor is more important than the other two combined). It is self-evident that such a conclusion is not really satisfactory because an area which has a very large proportion of young people 15-18 years of age who no longer attend school and a very large proportion of single-parent families is truly disadvantaged, even if most of the families are not, strictly speaking, poverty-stricken. In fact, instead of arbitrarily giving variables degrees of importance which could vary considerably from one variable to another, it would probably be preferable to give exactly the same weight to each variable; this is also arbitrary but the practical implications are certainly less "dangerous".

A special effort has been made to avoid, as far as possible, any arbitrary suppositions in this study. The method used to attribute a weight to each variable is based on the following reasoning. Each of the 13 variables is known to be a true "indicator of a disadvantaged environment", but naturally some will be better indicators than others. This results from the fact that, as shown in Table IV, the simple correlation coefficient between certain variables and each of the other 12 variables, is, on the average, clearly higher than it is for some of the other variables. So it can be said that the more a variable is correlated with each of the other 12 variables, the more accurate an indicator of disadvantaged areas it will prove to be (as each of the other variables is itself an indicator of disadvantaged areas). It is probably very logical to say that the better a variable proves to be as an indicator of disadvantaged areas, the more important it should be in the process of identifying disadvantaged areas. In other words, the more the variable proves to be efficient as an indicator, the greater the weight attributed to it should be. For this reason the following method has been used to attribute a weight to each variable: the weight of a variable is directly proportional to the arithmetical average of the simple correlation coefficient between this variable and each of the other variables. This means that the higher the average correlation of a variable is with all the others, the greater its importance will be in the process of identifying disadvantaged areas.

For variables C,D,E,F,G,J and K, it is a question of "average correlation" with the other 12 variables. However, as the correlation is naturally high between the pairs of variables A and B, H and I as well as L and M, the calculation of the "average correlation" of each of these variables excludes the variable with which the correlation is high. The "average correlation" of each variable is therefore expressed as a percentage of the sum of the "average correlations" of all the variables which gives a relative weight to each variable in the identification procedure; that is, in the Global Index formula.

The relative weight of variable D had to be corrected because, as previously shown, this variable is inaccurate as a measure of the phenomenon of the absence of bath or shower in lodgings occupied by families with school-age children. To a certain extent, variable D measures the absence of bath or shower in lodgings occupied exclusively by adults, and a noticeable correlation has in fact been found between the proportion of lodgings without bath or shower and the proportion of lodgings occupied by one person. It was this correlation that led to the correction that was made to the relative weight of variable D.

If a simple regression model is made, of the type $Y = a+bX$ where Y represents the proportion of lodgings without a bath or shower and X represents the proportion of lodgings occupied by one person, a determinate coefficient of approximately 0.25 is obtained, whereas the simple correlation coefficient between X and Y is 0.52. Even if this is not strictly accurate, it can be assumed that the value of this determinate coefficient shows that approximately 25% of the variation in the level of variable Y is "explained" by variable X, in other words, approximately 25% of the measurement given by variable D relates to the absence of bath or shower in lodgings occupied by one person and approximately 75% relates to the absence of bath or shower in lodgings occupied by families with school-age children. Consequently the relative weight of variable D has been reduced by 25%. This is obviously not an ideal correction but the inaccuracy of variable D had to be taken into account, and since it could not be treated as if it were a perfect measure, it was necessary to proceed with the "means at hand".

Table VI gives the relative weight of each of the 13 variables in the Global Index formula. It will be noticed that there is very little difference between the values of the relative importance of each variable. This is logical as these variables have been retained precisely because they are highly correlated between themselves.

TABLE VI

THE RELATIVE WEIGHT OF THE VARIABLES IN THE GLOBAL INDEX FORMULA

Variable	Relative weight	(in decimals)
Weighted percentage of families with school-age children and whose income is less than $5,000.	8.8%	0.088
Weighted percentage of families with school-age children and whose income is over $10,000.	8.7%	0.087
Weighted percentage of families without children whose income is less than $3,000.	7.5%	0.075
Weighted percentage of lodgings without a bath or shower.	5.0%	0.050
Weighted percentage of families with 5 or more children	6.7%	0.067
Weighted percentage of single-parent families	7.9%	0.079
Weighted percentage of persons 15 to 18 years of age no longer attending school	7.2%	0.072
Weighted percentage of mothers with 7 or less years of schooling	8.9%	0.089
Weighted percentage of mothers with 12 or more years of schooling	7.5%	0.075
Weighted percentage of fathers who are unemployed	8.5%	0.085
Weighted percentage of lodgings with one or more lodgers	7.1%	0.071
Weighted percentage of fathers employed as manual workers	8.4%	0.084
Weighted percentage of fathers with an administrative, professional or technical occupation.	7.8%	0.078
TOTAL for all variables	100.0%	1.000

8. The application of the Global Index formula and the results obtained

As previously stated, the Global Index Value for a district indicates the "relative degree of disadvantage" of this district. The Global Index is defined in this way:

$$I_j = \sum_{i=1}^{13} a_i R_{ij}$$

where I_j = Global Index Value for the census district j

a_i = relative weight of variable i

R_{ij} = rank of district j for variable i

In other words, for a given district, the Global Index Value is equal to the sum of the ranks held by that district for each of the 13 variables, each of these ranks being multiplied by the relative weight of the variable to which it relates. Given that the sum of the relative weight of all the variables is equal to one, this indicates that if a district holds the first rank for each of the 13 variables, the Global Index Value for that district will equal one and that if a district holds the last rank (i.e. the 50th rank) for each of the 13 variables, the Global Index Value for that district will equal fifty. Thus the Global Index Value has a range of variation between 1 and 50.

The following are the principal salient facts derived from the results obtained:

Minimum Global Index Value:	16
Maximum Global Index Value:	49
Average Global Index Value for the 416 census districts:	33
Standard deviation (root-mean-square deviation):	4

It should be noted that the distribution of the Global Index values for the 416 census districts is fairly close to a normal distribution, as 73% of all the Global Index values are within the range of a standard deviation from the average value; that is, between 29 and 37 (the average being 33 and the standard deviation being 4).

Finally, it is those 65 census districts whose Global Index value is less, by more than a standard deviation, than the average value which have been considered to be "disadvantaged districts", that is, districts whose Global Index value ranges between 16 (minimum value in the Global Index) and 28 (value immediately below the minimum value of the lower standard deviation which is 29, i.e. 33 less 4). This is clearly shown in Figure I which gives the approximate configuration of the frequency distribution of the 416 census districts according to their corresponding Global Index value. The section that is diagonally lined under the curve represents the location of the districts which, according to their Global Index value, are placed lower than a standard deviation below the average (i.e. less than 29), thus the districts which can be considered to include a clearly disadvantaged area.*

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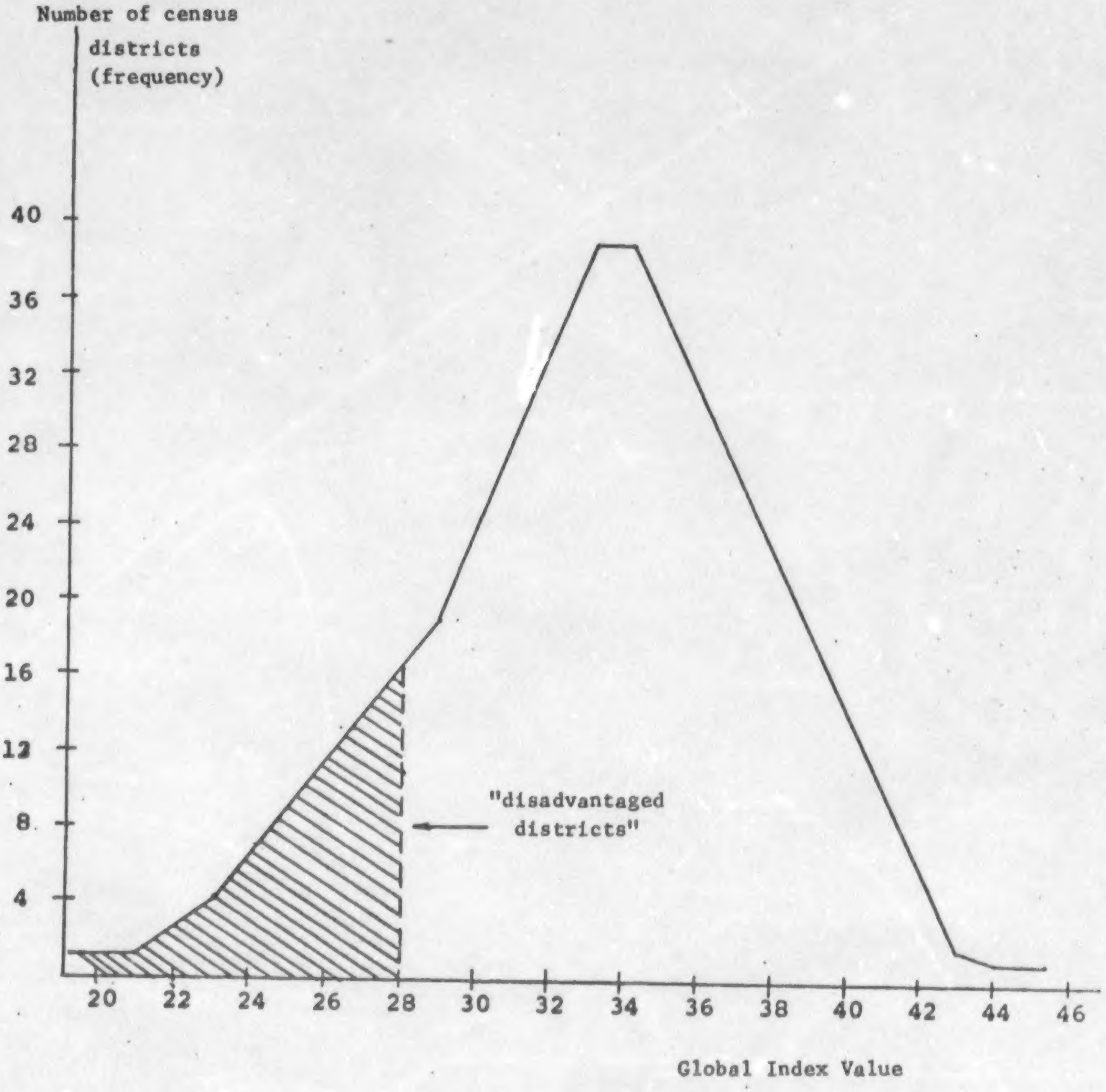
* Figure I is to be found on the next page.

FIGURE I: FREQUENCY DISTRIBUTION OF THE GLOBAL INDEX VALUE OF THE 416 CENSUS DISTRICTS ON THE ISLAND OF MONTREAL



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